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REVIEWS

MOTU Digital Performer 9

Native Instruments S88

Akai Timbre Wolf

AND MORE!

NEW COLUMN

Acoustic Pianos

THE ASTONISHING

JORDAN RUDESS

On Dream Theater's New Rock Opera, His Latest Solo Album, and the Future of Prog

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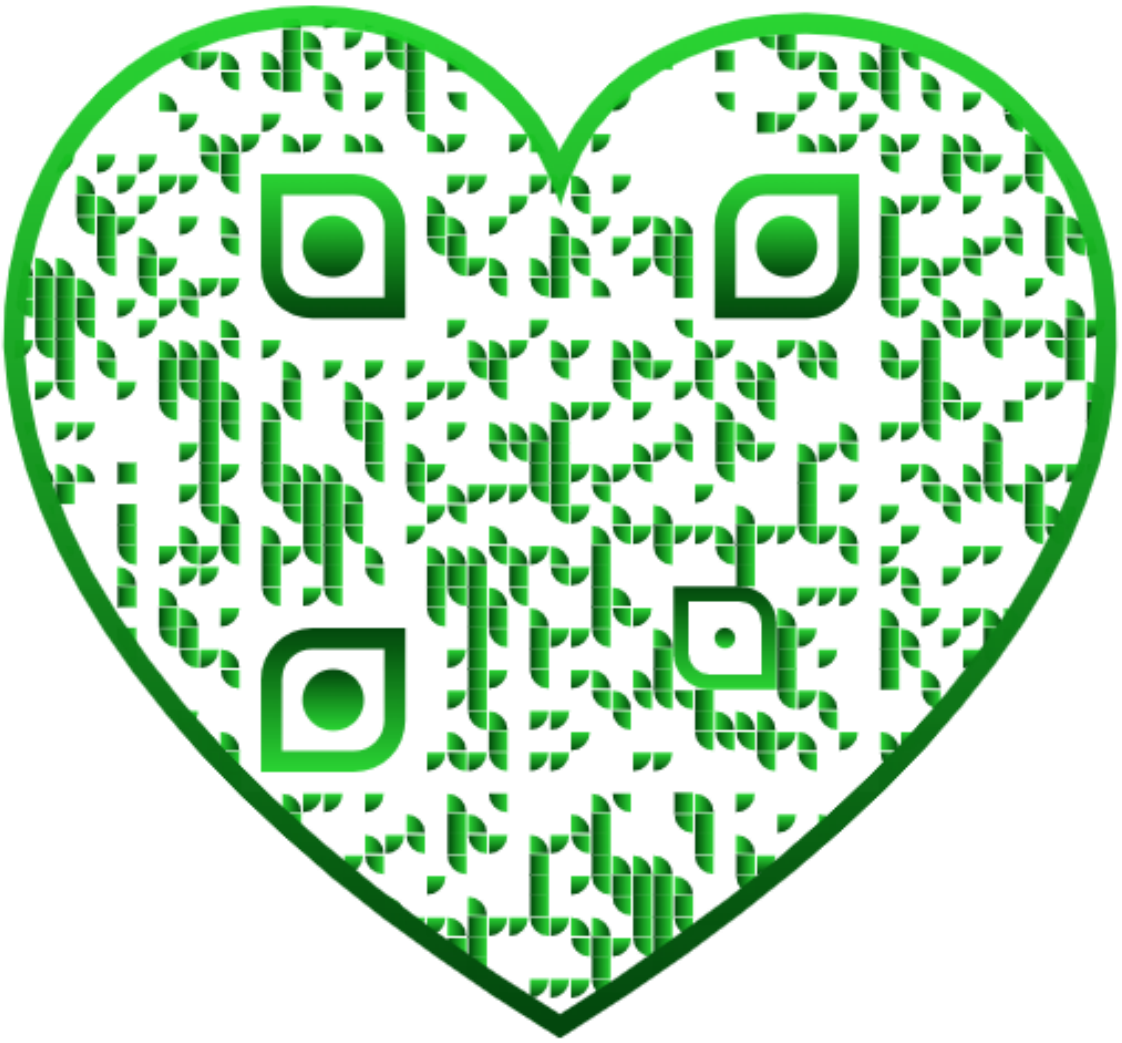

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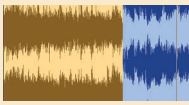

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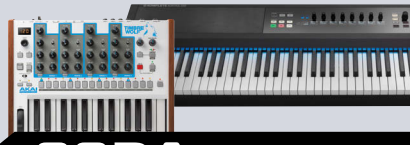

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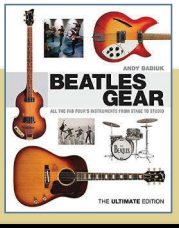

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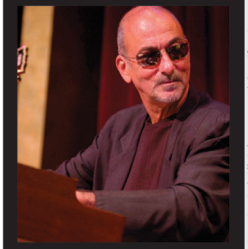

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EDITORIAL DIRECTOR: Michael Molenda mmolenda@nbmedia.com
EDITOR IN CHIEF: Gino Robair kbeditor@nbmedia.com
MANAGING EDITOR: Barbara Schultz bschultz@nbmedia.com
WEB EDITOR: Markkus Rovito mrovito@nbmedia.com
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SENIOR CORRESPONDENTS: David Battino, Tom Brislin, Michael Gallant, Robbie Gennet, Jerry Kovarsky, John Krogh, Richard Leiter, Tony Orant, Mitchell Sigman, Rob Shrock
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ADVERTISING DIRECTOR, EASTERN REGION, MIDWEST & EUROPE: Jeff Donnenwerth jdonnenwerth@nbmedia.com, 212.378.0466
ADVERTISING DIRECTOR, WESTERN REGION & ASIA: Mari Deetz mdeetz@nbmedia.com, 650.238.0344
ADVERTISING SALES, EASTERN ACCOUNTS: Anna Blumenthal ablumenthal@nbmedia.com, 646.723.5404
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Editor's Note

From the very beginning, *Contemporary Keyboard* has covered just about every instrument that sports an array of black-and-whites—from church organ, harpsichord, and accordion to nearly any electric keyboard and synth innovation you can think of (including unusual and experimental designs). Of course, the piano has always gotten a lot of love in our pages, with lessons and master classes, as well as interviews with leading players. We've even focused on strategies for preparing the piano using household items.

This month we are adding a new column—"Acoustic Grand and Upright"—that will focus specifically on recent trends and technologies involving acoustic pianos. I am especially happy to kick it off with a look at Shadd Pianos USA and an interview with its namesake, William M. Shadd. A second-generation piano tech from a family with a rich musical history, Mr. Shadd is this country's first African-American piano builder, and in the few years he's been in business, he's made quite a name for himself by creating instruments for some of the world's most well known clients. (Read the full story on page 14.)

New things are also happening online at keyboardmag. We have a host of new items going up daily, including Moog Mondays, featuring classic articles by Bob Moog, reviews of new artist releases on Tuesdays, and lessons from the vault on Fridays as your Weekend Skill Builder.

As always, feel free to send us your comments, questions, and feedback. We love to hear from you.

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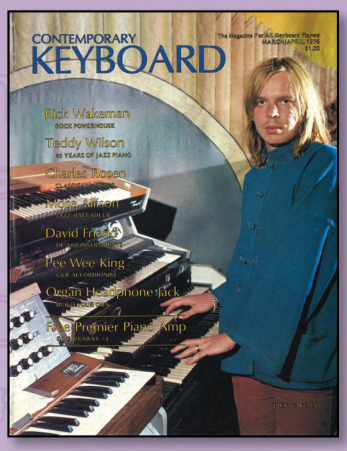
Editor in Chief



+ 40 YEARS AGO TODAY

We continue our 40th birthday celebration by looking back at *Contemporary Keyboard*'s fourth issue (March/April 1976), which included interviews with jazz pianists **Teddy Wilson** and **Mose Allison**, country and western accordionist **Pee Wee King**, and classical player **Charles Rosen**.

This was also the first of several issues to feature **Rick Wakeman** who, at the time of this interview, had already finished his first round with Yes and completed three solo albums. When asked if he does warm-up exercises before going onstage, Wakeman brought up the long-term benefits that results from practice. "I try to put in three hours a day, otherwise, my fingers stiffen up. And that practice can be anything. Sometimes I might have a day when I like to get out the old Bach 48 [*The Well-Tempered Clavier*] and bore myself to death. On another day I might leap through scales and arpeggios. It just depends, you know.

"It's important to keep your technique up because you write according to it. That's the one fault with anybody who writes for themselves. They write what they know they can technically play. So, if you keep working on your technique, constantly improving it, then that must help your writing, as it gives you a wider variety of things you can play."

Key Secrets **Grime Pays**

One of my strangest audio gigs was running the boom mic for the horror film *976-EVIL 2*. Standing six feet from the action, I learned creative tricks that are easy to extend to music. For example, before the scene shown here, the set decorators smeared dirt around the light switch. That subtle grunge added realism that made the horror across the room even more visceral. Similarly, adding samples of "room tone" to your electronic recordings (or miking speakers) can add an evocative ambience far beyond digital reverb. For another movie project, I set my keyboard to trigger a layer of noises and squeaks in a narrow Velocity range, adding messy character to the melody I played. David Battino

MARTY GELHAAR, 1961-2015

KEYBOARD TECH TO THE STARS

The touring community mourns the loss of Marty Gelhaar, 54, who passed away November 23, 2015 after a courageous battle with cancer. For the past 28 years, Marty served as a keyboard technician for some of the best in the business including Bruce Springsteen, Gregg Allman, Billy Joel, Bon Jovi, Bob Seger, Steely Dan, Yes, Sheryl Crow, Aerosmith and Kansas, just to name a few.

Marty will be remembered not only for his technical expertise but also for his enthusiasm and wit—on and off the road. He also operated Atlanta Vintage Keyboards where his love of electro-mechanical keyboards was surpassed only by his prowess for repairing and restoring them. Rock on brother!

Visit keyboardmag.com to see our 2012 video interview with Marty, who took us on a tour of keyboard rigs used for Bruce Springteen's Wrecking Ball tour.

BREAKING NEWS

YAMAHA'S POWERFUL NEXT-GENERATION KEYBOARD WORKSTATION

JUST AS WE WERE GOING TO PRESS, YAMAHA GAVE US THE SKINNY ON ITS new keyboard workstation, the Montage. Available in 61-, 76-, and 88-key configurations, the Montage is based around the company's new Motion Control Synthesizer Engine, which provides two sound engines—the Advanced Wave Memory 2 (AWM2) and FM-X.

The AWM2, which offers 128-note stereo polyphony, is compatible with earlier generations of Motif libraries (ES/XS/XF Voices) and has nearly 10 times more waveform memory than the MotifXF. In addition, its 1.75 GB of flash memory allows users to load their own samples or additional synth libraries downloaded from yamahasynth.com.

As the name suggests, the FM-X engine provides DX-style FM synthesis with an 8-operator architecture and 128-note polyphony. FM-X was designed to provide a range of timbres, from vintage '80s tones to modern sounds, and the company plans to offer a converter that will load DX7, DX7II, TX802, and TX816 patches.

The Montage also introduces Motion Sequences, which are tempo-synced control sequences that can involve nearly any parameter in the synth system. The front panel includes dedicated Motion Sequence controls.

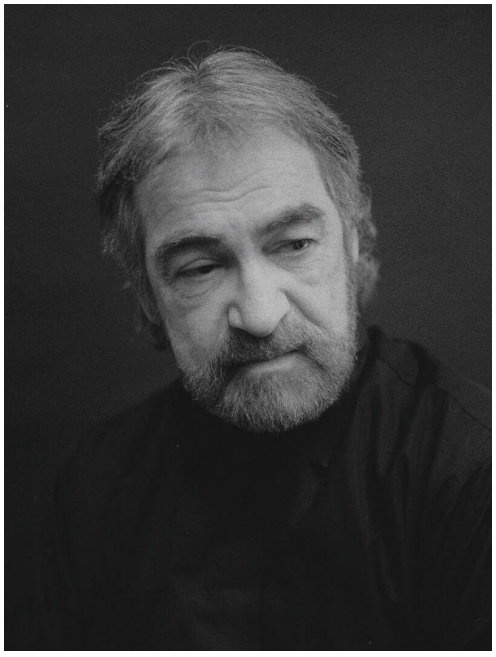
The onboard DSP effects include reverb, as well as vintage-style processing (analog delay and phase shifting) and EDM-friendly effects (sidechain ducking, vinyl break, beat repeat, bit crush). Pianists can also take advantage of the damper resonance and high-definition reverb effects, especially with the included Yamaha CFX Premium Grand Piano. Montage owners will also be able to download the Bösendorfer Imperial Grand Piano for free.

Yamaha says that, despite its powerful synth features and dynamic control, the Montage was designed with a streamlined workflow. For example, the interface includes a color touch screen, faders with step-ladder LEDs, and eight rotary encoders. The Super Knob macro-control lets you change several parameters at a time.

The keybeds in the Montage 6 and 7 (61- and 76-key, respectively) have an FSX semi-weighted synth action, while the 88-key Montage 8 provides a fully weighted balanced-hammer action. All three models provide Aftertouch.

For more information about the Montage series, visit yamahasynth.com.

Donnie Fritts
SOUTHERN KEYBOARD SOUL



KEYBOARDIST AND SONGWRITER DONNIE FRITTS MADE A NAME FOR HIMSELF on the legendary Muscle Shoals, Alabama, music scene. He's played keyboards with Kris Kristofferson, written songs covered by Ray Charles and Dusty Springfield, and acted in more than 15 movies. Fritts' new album *Oh My Goodness* is out now and features appearances by Jason Isbell, John Prine, and Brittany Howard of the Alabama Shakes. Find out more at funkydonniefritts.com.

HOMETOWN: Florence, Alabama

MUSICAL INFLUENCES: My Daddy, who was a great guitar and bass player. Then of course, Ray Charles, Jerry Lee Lewis, Bobby "Blue" Bland, and other people like that.

MY BIG BREAK: Joining Kris Kristofferson's band in 1970. By August of that year, we played the Isle of Wight festival off the coast of England. And by Christmas we were playing at Carnegie Hall!

LATEST ALBUM: *Oh My Goodness*, produced by John Paul White and Ben Tanner, out this month on Single Lock Records.

FAVORITE KEYBOARD GEAR: A Wurlitzer 200A electric piano.

ADVICE TO OTHER MUSICIANS: Never stop, never let anyone talk you out of your dreams, and if it's meant to be, it'll happen. Oh, and practice!

Donnie Fritts Plays "If It's Really Gotta Be This Way"

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Grant Mitchell
THE PIANIST/PRODUCER

BRITISH PIANIST, SONGWRITER, AND PRODUCER GRANT MITCHELL HAS WORKED with some of the world's best-known artists like Seal, Eric Clapton, and Julia Fordham. He most recently appeared on the multimillion-selling debut album by singer/songwriter Emili Sandé.

MUSICAL INFLUENCES: Oscar Peterson, Herbie Hancock, Stevie Wonder, Steely Dan, Michael McDonald, Earth,Wind & Fire, plus arrangers like Jeremy Lubbock and Nelson Riddle, Quincy Jones, André Crouch, Rachmaninoff, Ravel, J.S. Bach, and all kinds of music from the 1970s.

MY BIG BREAK: Producing and arranging the first Julia Fordham album in the late 1980s, which gave me the opportunity of working with the some of the world's greatest musicians. Also, collaborating with producer Trevor Horn for several years. Those experiences taught me a huge amount about making records, like the psychology of interacting with artists and performers, how to extract the best from them, the discipline, diligence and attention to detail that's required, and that the first "take" nearly always contains the magic and the spontaneity that connects with people.

LATEST WORK: *Our Version of Events* by Emili Sandé and *The Language of Love* by Julia Fordham.

FAVORITE KEYBOARD GEAR: At the moment as a piano player, it's the Kawai VPC1 controller paired with Ivory's American Concert Grand. It's as close to a real piano as I think you can get without needing a truck and six guys, although it's still pretty weighty!

ADVICE TO OTHER MUSICIANS: Absorb and learn from the musicians and artists that inspire you; it will help you to create your own unique identity, approach, and sound. Listen to what others are doing when you play. Don't ever underestimate the value of learning all of the wonderful reharmonization and voicing options that are available to you. Never give up (there *will* be times when you will want to), and finally, the *ninth* is one of the most useful tools in a piano player's arsenal!

Watch Grant Mitchell play "Towerblock" live with Julia Fordham.

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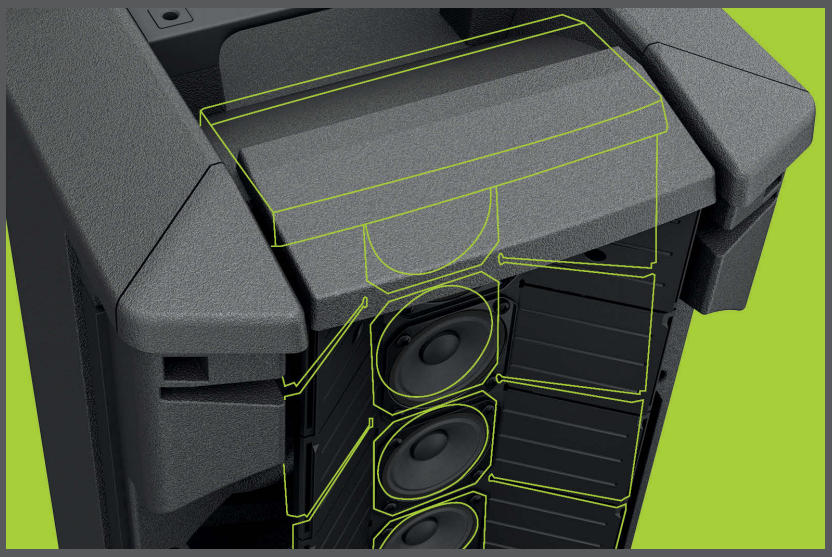

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NEW GEAR

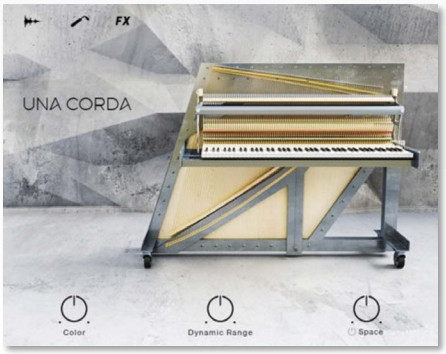
BY GINO ROBAIR

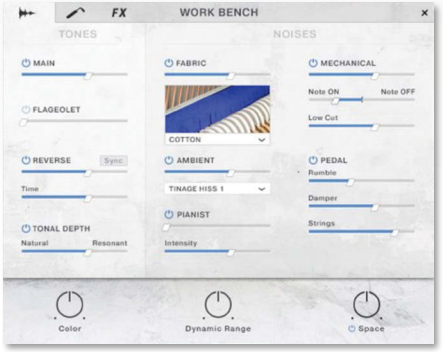
KORG MINILOGUE

WHAT A 4-voice, polyphonic analog synth with 37-note keyboard. Features include two oscillators per voice, an LFO, a lowpass filter (2-pole/4-pole), ring modulation, FM, an arpeggiator, a step sequencer, a delay with a high-pass filter, two ADSRs, USB and MIDI, sync I/O, and presets. **WHY** A remarkably powerful, yet portable polysynth for the price.
$499 street | korg.com

PITTSBURGH MODULAR LIFEFORMS SYSTEM 201

WHAT Dual-oscillator, semi-modular synth with pressure-sensitive capacitive keyboard controller. Includes a sub oscillator, resonant state-variable filter, sample-and-hold, VCA and 4-stage EG, two mixers, an arpeggiator, a sequencer, stereo line outs, headphone jack, and MIDI-to-CV converter with Monophonic and Duophonic modes. **WHY** Great as a starter synth for new modular users or as a portable gig rig.
$1,599 | pittsburghmodular.com





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WHAT A virtual upright piano that utilizes a single string for each note. Effects include a variety of fabric mutes; adjustable noise from the pedal, mechanical elements and preparations; reverse envelope; and EQ and compression. For Kontakt 5/Kontakt 5 Player. **WHY** A unique piano library that can sound as gentle or aggressive as needed.
$149 | native-instruments.com

SPITFIRE AUDIO HANS ZIMMER PIANO

WHAT An acoustic grand-piano library recorded at 24-bit/96kHz resolution using 60 microphones, Neve preamps, and Prism Sound converters. The 452.7GB collection of WAV files offers round-robin notes, staccato and legato attacks, and a variety of playing techniques. Includes Kontakt Player. **WHY** A high-end virtual concert grand for studio work or performance.
$450 | spitfireaudio.com

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NEW COLUMN

Acoustic Grand and Upright

WARREN SHADD AND THE SHADD PIANO

BY JON REGEN

"ALL I CAN SAY IS *WOW*," WASHINGTON, DC NATIVE WARREN M. SHADD TELLS me of his recent visit to the Vatican in Rome, Italy. But this country's first African American piano maker wasn't there on a simple sightseeing trip. His 9′3″ Shadd grand piano was recently chosen as the official piano of the Vatican, with the Pope's seal artfully emblazoned on the instrument's inside lid. "I was told that the Pope is in awe of the instrument, which is used by the Sistine Chapel Choir," Shadd says. "I'm going back to have a personal, sit-down meeting with the Pope this month. That's going to be awesome!"

Shadd grew up in a musical family: His aunt was the legendary Grammy-winning pianist and singer Shirley Horn. "Her unique combination of singing, swinging and accompanying herself with a rich vocabulary of chord voicings was just a *tad* inspiring," Shadd jokes. But Horn wasn't the only musician in Shadd's family. "I actually grew-up as a drummer in an extremely vibrant musical household," Shadd says. "My father, my grandmother, my mother and my sister were all pianists. And my grandfather was a drummer and the inventor of the collapsible drum set. So I was totally immersed in music."

Shadd was introduced to the art of piano technology through his father as well. "My father, James, became a piano technician because he got tired of playing beat-up pianos on his gigs," Shadd explains. "He got himself a tuning hammer and soon after, he started bringing pianos into our house. There were pianos everywhere –from the garage to the kitchen. He really began to love working on pianos and I started experimenting with them as well. As a hobby, I would disassemble pianos completely, just like someone might do with a toy car. I experimented with taking parts from one piano and putting them into a different one, understanding the characteristics each part brought to the mix. I had no idea at that time it would one day lead to me *building* my own instruments!"

Shadd's foray into serious piano work came after his father's death in 1993. "After my father passed away, I took over his piano tuning and rebuilding business in Washington, DC. I did a lot of tuning and repair work for everyone from public schools to celebrity artists. At that time I started writing down my ideas of how to enhance the sound of the piano. But I didn't do anything with them for a decade, when a tuning client of mine encouraged me to build my own piano. He said to me, 'You're the only guy that can do it!' I became so inspired by his words, I went back to my old notes and I started experimenting again. That resulted in my first prototype in 2003, based on an idea I had for an *interactive* piano that had various onboard sound enhancements. It had built-in electronics and speakers that gave the player a surround-sound experience, even in the bench." When a proposed partnership between Shadd and a famed piano maker fell apart, Shadd struck out on his own. He sold his first instrument in 2012 and hasn't looked back since. "I'm able to cherry-pick my favorite piano parts and build instruments from the ones I think are the best," Shadd explains. "I get to customize each piano exactly as I want."

The Pope isn't the only famous user of the Shadd Piano these days. Shadd's instruments are also featured on the hit Fox TV show *Empire*, and championed by artists such as Chip Crawford (Gregory Porter) and pianist Antonio Ciacca. "We've sold pianos from New York to Australia and all over the world," Shadd says. "And we're *close* to producing a piano for the President. So let's see how that works out!" ♫

Cyrus Chestnut plays the Shadd Piano

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ASTONISHING!

THE MANY FACETS OF KEYMASTER JORDAN RUDESS

BY STEPHEN FORTNER

Jordan Rudess is arguably the best keyboardist in rock music today, and the argument doesn't take long. He trained at the world-renowned Juilliard School of Music, where he first studied as a child prodigy at age nine. As a teen, he defected to synthesizers in a classic act of rock 'n' roll rebellion. He came onto our radar in 1994, when *Keyboard* readers voted him "best new talent," and in the more than two decades since has become the universally acknowledged heir to the shredding throne of such prog-rock royalty as Keith Emerson and Rick Wakeman. Best known for his long tenure with progressive metal potentates Dream Theater, he's the paradigm of how much keyboards can do in the context of heavy rock.

Jordan is also as much a technologist as he is a virtuoso. Long an advocate of musical interfaces beyond the traditional keyboard, he has helped put alternative controllers such as the Haken Continuum, Roger Linn Design LinnStrument, and Roli Seaboard on the map. (He even wrote about the subject in our June 2015 issue.) And his own company, Wizdom Music, develops instrument apps for Apple iOS.

His latest project with Dream Theater is *The Astonishing*, a 34-track rock opera about a hero who wields the power of music against a dystopian empire. Far from mere swords-and-spaceships entertainment, it takes the listener through as many plot twists as it does musical moods, time-signature changes, and solos that seem to defy the laws of physics. We spoke to Jordan about Dream Theater's most ambitious album ever, his new solo piano release, his latest app, and more.

How did the storyline for *The Astonishing* evolve?

About two years ago [Dream Theater's founding guitarist] John Petrucci started to think about it. The band knew that we wanted to do a concept album, but had been waiting for the right time. We wanted to get fans comfortable with the new drummer Mike Mangini and get him comfortable with us. At the end of the last world tour, he handed me a synopsis of the story, which he'd been constantly pounding on and refining and rewriting. When we got to writing music to it, it was like composing for an opera or a film score. We'd have meetings about it every morning where we'd go, "We last saw this character five songs ago, so let's use a variation on that theme . . ." It's certainly the most detailed thing we've ever done.

You worked with the renowned orchestrator David Campbell, and the album contains both his arrangements for orchestra and yours for keyboards. What was the division

JIMMY FONTAINE

of labor between the two of you?

We all knew we wanted the sounds to be as organic as possible: real piano and organ, real strings and choirs as opposed to virtual ones. David has a tremendous résumé, of course, and was on our radar as an orchestral arranger who had also worked with rock groups such as Muse. We thought he'd be too busy, but we asked him and he signed on! Our initial thought was, let's do it all on rock instruments and let David arrange it, but that wasn't really thinking ahead in terms of who we are. When we go into the studio, we tend to work on things until they're pretty polished. So we got into what we called *pre*-orchestrating. I'd use any sound at my disposal to place strings where we wanted to hear strings, choir where we wanted choir, and so forth—but without getting overly specific about a certain patch or instrument library being *the* one, because we knew it was all going to be replaced with real players.

Beyond the instrument sounds, did the arrangements themselves change much?

Sure, which was the point of bringing him in. He might say, "Jordan, we don't need that thick of a string chord here, because I'm going to bring woodwinds in for the middle register." I'd simply go, "Hey, you're the man!" Because of his experience, he was great at knowing exactly where to do what, within our needs and budget. He used some great orchestra musicians in Prague, singers in L.A., there's a beautiful soprano that sings some lilting, mysterious-sounding stuff. David played violin himself on an intro to one of the tracks.

This must have involved a degree of remote collaboration. How did you go about that?

John Petrucci and I would chime in via the Internet as much as we could. We'd type in a private URL, for example, and then we'd be listening to the conductor rehearsing the orchestra in Prague. David would also be online making comments. Since we couldn't usually be there, it was great to be in on the

sessions virtually. Even before that stage though, when John presented me with the story I was exhausted from the last tour, so I'd sit at the digital piano in my living room and capture musical ideas, just into my iPhone. Eventually John and I knew we needed to get together every day, so we booked time at Cove City Studios on Long Island. I had my whole world of virtual instruments inside of Logic Pro, so I just brought my MacBook, we plugged in his guitar, and for a while that was how we wrote. At a reasonable point, we started transferring audio stems to Pro Tools for our engineer, Rich Chycki, who was in charge of getting files to David Campbell.

With laptops powerful enough to do tons of audio tracks, to what degree do you still rely on MIDI to lay down your parts?

I grew up with MIDI and still rely on it a lot for flexibility. But it lives within the computer and on virtual instrument tracks, at least in terms of my writing workflow. What I'm not doing so much anymore is sending MIDI data all around the room to trigger all my hardware keyboards—they're still there, but more to be played in real time when I get inspiration. Now, the worries are more about making sure all my samples are properly organized on hard drives and that my iLok is handy and my licenses are up to date! [*Laughs*.]

Some people are cynical about the whole concept of "concept rock." They view operatic storylines and extended instrumental movements as hokey. What would you tell them?

First of all, I'd say it's a privilege to be in a group that can even pull this off, both musically and in terms of the support from management and the fans. Our fans are an amazing bunch; they'll analyze every note we play and discover things we didn't even know existed! [*Laughs*.] So to give them a *story* is appealing and, well . . . fun! Another reason I'm excited about doing this is, I feel like the way we listen to and even how we create music is all very scattered. People might download one song here, stream a channel there. We're all multitasking and consuming our music in dribs and drabs—and that kind of sucks.

But this very fact makes a lot of people still crave the long-form experience like when you put on headphones and lose yourself in an album, and a lot of those people are our fans. So we're putting it out there because we can. We're even telling our fans, "If you're looking to hear big previous hits like 'Pull Me Under,' this tour is going to be all about *The Astonishing* from beginning to end." We plan to do it in really nice theaters where people can relax and listen actively.

It also needs to be said that both in terms of musicianship and musical moods, this surpasses any previous Dream Theater album. It can go from very heavy to very delicate, such as the almost chamber-music section with harpsichord on "A New Beginning."

Yeah. Though this is definitely a "Dream Theater album," it called upon us to go even deeper and broader than we normally do. It's . . . *fusion* of sorts. In one sense it's "prog," but it goes beyond any combination of elements we've ever done. Some of that fell to me. I had to go into my electronica world to create the sound of the Noise Machine creatures, which enforce for the bad guys. It also had me thinking about musical theater a lot of the time, and that sort of song form. My wife is a theater producer and my daughter is going into theater, so there's a lot of theater in my life!

You said fusion. Some of the songs had a precision to them that reminded me a little of the Dixie Dregs, which you played in.

What's funny about that is, when I first joined Dream Theater, they were very aware of the Dregs. I'd play something I felt came from my progressive rock influences—Gentle Giant, King Crimson, Yes, ELP, early Genesis—and they'd go, "Hey, that sounds kind of Dregs-ish!" When I met Steve Morse and was in the Dregs, I remember thinking, "This is sort of a different take on a Gentle Giant thing, with the counterpoint and switching time signatures and such." So subconsciously, there may be some Dregs-like things in there, but if it has to be pinned on something, it would more likely be classic prog.

You also mentioned electronica, which shows up on *The Astonishing* in interludes like "The Hovering Sojourn," "Digital Discord," "Machine Chatter," and "Power Down." What can you share about their sound design?

Those encompassed a lot of different things. First of all, Spectrasonics Omnisphere 2, which is the one thing I go to all the time. Richard Devine made some really cool patches for it, and if you're looking for futuristic, glitchy sounds, he's the king. I'm very much into the Heavyocity tools, such as Damage and Evolve—Dave Fraser, who's one of their main guys, made me some amazing custom sounds for ships hovering and all those "impact" sounds you hear. I would walk up to the keyboard and be thinking, "So *this* is how they do it in the movies!" [*Laughs*.] I used Sugar Bytes' soft synth Cyclop for some aggressive sounds. We also dug into some Hollywood sound FX libraries, and our engineer Rich was great at trying different combinations of things and layering them in Pro Tools.

"Dystopian Overture" features a call-and-answer section with a huge number of sounds rapidly playing the same line in succession . . .

That goes back and forth between the orchestra and the band. The guitar has an answer, the bass has one, I do one on piano, I do one with a mallet sound, one with a synth sound—oh, and one with a signature Dream Theater sound I call the "snarling pig." Through the years I've had to reprogram it for every keyboard platform I've used!

Your signature lead sound often focuses on guitar-like bends, hammer-ons, harmonics, and feedback, and shows that keys can rock every bit as hard as guitars. Some keyboardists, though, say a synth player should strive to sound distinct from guitars. Your thoughts?

I definitely have feelings about that. Very often when a keyboardist simply *chases* a guitar sound,

THE UNFORGOTTEN PATH

Recorded at home on his prized Steinway D, Jordan Rudess' latest solo album comprises haunting piano arrangements of originals and an eclectic mix of covers. "A lot of these songs are ones that for a long time, if I just sat at a piano I'd gravitate towards playing one," he explains. "But I'd never recorded my own versions of them, and had a little chunk of time in my studio last August before the whole Dream Theater thing got crazy again. I had my friend John Guth over, who has all these beautiful mics and the know-how to record it properly. Then I just had to pick the songs. They're a combination of progressive rock melodies I love—things like King Crimson's 'Moonchild' or even 'Grandchester Meadows' by Pink Floyd. Then there are Beatles songs like 'Here, There, and Everywhere' and even Sondheim's 'Send In the Clowns,' which is such a beautiful melody. The originals include 'For Japan,' which I wrote after the tsunami and earthquake of 2011, and 'Tribute to Jobs,' which I originally wrote on my MorphWiz app after Steve Jobs passed. As much as I get into the synthesizer headspace, playing my piano equals emotional home." Check it out on iTunes, Amazon, or CDBaby.

it's just not going to be as cool. Not if you're simply trying to imitate a guitar. Luckily, I feel that in my role as a synth programmer, I've created-slash-stumbled-upon some sounds that have impact and totally work in a rock lead context. Given the makeup and style of Dream Theater, I need something that's going to fly over the mix—you could think of the whole band as the guitar domain.

I've never really found stock sounds on any synth that suit that purpose. I have sounds I made when I played Kurzweil technology, which I brought into the Korg realm. Currently, the joystick on my Kronos brings in different harmonics, the two assignable buttons bring in two more, and the ribbon control brings in a sub-octave plus a little more grunge. So it's not meant to sound *like* a guitar, but to be as *effective* as one in the world I live in, not to mention playable with the articulation controllers my gear provides.

On this album, there's also a lead played on the Roli Seaboard Grand Stage that's a similar idea. [*Hear this solo starting at 1:19 on the song "The Path Divides."*] I wanted something to cut, but also to take advantage of the Seaboard's style of gliding, which lets you do long bends across the entire key range. It would be very hard to even think like that on a guitar.

Did you use your new app GeoShred for any guitar-like solos?

Yeah. It was just coming together as this album was being made, but I had to use it on one rockin' solo! You can hear it on the tune "A New Beginning" between 4:27 and 4:42. [*For more on GeoShred, see the sidebar below.*]

Speaking of GeoShred, how did your interest in being a synth app developer begin?

When the first iPhone came out, somebody had made this little one- or two-octave app for it, which had a one- or two-octave piano keyboard and made a very basic sound. It was about the same time my wife and I had bought our nine-foot Steinway D. I'm sitting there playing with this app, and my wife goes, "What are you *doing*? There's this beautiful grand piano in the other room." But I was fascinated. I knew there was the potential to put your finger on one spot to make a sound, then move it and get more expression. I kept my eye on the App Store to see what others were up to, and eventually met a developer named Kevin Chartier. We worked together on what would eventually become MorphWiz. That won a *Billboard* award in 2010, which gave me some momentum, and Wizdom Music was born.

Tell us more about your work with the Seaboard from Roli Labs, for whom you're now Chief Music Officer.

I've always been interested in hardware that lets you think outside the keyboard box about controlling pitch and adding expression. It's very exciting to see a company that's trying to evolve the 12-note keyboard into a multi-touch, multi-expressive surface. The Seaboard Rise model has what they call "5D touch," and all of it is on a per-note, polyphonic basis. Strike velocity, pressure, left-right glide, lift, and slide, which tracks the Y-axis of the keys.

As a longtime fan of alternative controllers, why do you think they haven't caught on more broadly yet?

One of the challenges, especially for a keyboardist, is playing a simple chord. It gets pretty deep to think about hitting the right notes at the same time you're pressing harder on this one as you slide up on that one. But we've got to push into a place where that kind of thinking is more mainstream. I think it really helps that the Seaboard retains the piano keyboard shape and therefore it's relatable. Some things that have come before were very expressive, but their interfaces were so left-of-center that they only appealed to the enthusiast segment—guys like me. But I think the Seaboard could appeal to, say, a violinist who's also an arranger-composer, needs to get a line down before a show, and realizes, "Look, I can add vibrato by rocking my finger." For the keyboardist who wants to put some brainshare behind finger independence, I think it can really up the whole game. Look at the evolution of guitar. When Clapton or Hendrix were first hitting it big, no one could even imagine how a Steve Vai or a John Petrucci plays today. I'd like to see the Seaboard or something like it do the same for keyboard playing.

Let's discuss some more album tracks. "Three Days" is one of the lyrically darker tunes on the album. Why the saloon-style honky tonk piano shuffle smack in the middle?

Things can get rather serious, rather academic and baroque, in the prog rock world. So we're always looking for moments where we can do something kind of fun and maybe make people smile. At that point in the storyline, things are bleak and it's villainous, so it seemed a good time to throw in that juxtaposition. There's an almost Dixieland section later on, too, which I mocked up on a bunch of virtual instruments and sent to David Campbell. That's a good example of John and I digging a little deeper than we normally would stylistically—and learning something in the process.

The Hammond organ is a prog staple, but we don't hear a lot of it on this album, so it stood out on the track "The X Aspect."

As someone who went from classical piano at Juilliard to being into Rick Wakeman and Keith Emerson, I did pay more attention to the synthesizer side of things than the organ side. My first instrument beyond the piano was a Minimoog. In the past, I'd use an organ sound from whatever my main synth was at the time—there have been organ parts on DT songs for sure, and we once covered the entire Deep Purple album *Made In Japan*—but we've never really been a "Hammond band." For this album, again, we wanted everything real, but I actually wasn't sure what the organ would bring. Then we went into this one studio that had a great Hammond B-3 and a killer Leslie. First of all, it was loud as shit! It growled and made your bones rattle. [*Makes a growling sound.*] I thought, "So *this* is what the guitar players get to feel!" Especially when you do techniques like a palm wipe, you just can't get that feeling out of a synthesizer. Maybe if you play a straight fifth or something, but once you start moving around, it's all the little inconsistencies that just make it. I'm really proud of

GEOSHRED

"GeoShred, my company's new iPad app, is based on a physical guitar model. One thing it can do really well is to create organic feedback I've never really been able to get from a synth. It's like you're really controlling the beast—like the feedback is going to get out of hand unless you harness it," says Jordan. "The programmers are all people I initially met at CCRMA [Center for Computer Research in Music and Acoustics] at Stanford University. They had all sorts of incredible applications for modeling, many of them developed by Professor Julius Smith. Sure, you can make it fretless so you can do crazy bends, or lock it down so it only plays pitches in a given scale. But it explores many more interactions between the touchscreen and the underlying model that really, the iPad is the ideal interface for playing in a way that's really musically effective." (See our review of GeoShred on page 43.)

the organ sounds I've programmed over the years, so I hate to admit it, but the real thing is very, very cool.

The fast portamento synth part on "The Walking Shadow" is almost Zappa-like in its angular quality. What was its inspiration?

That's another great example of John and I having the freedom to be a little quirky and bring in new styles. The funny thing is, it's played against this heavy Metallica-like guitar riff, *dun-duh-duh-duh-dun*. The sound is from the Korg Kronos. As a prog band we'll often tip our hat to the 1970s, so a portamento Minimoog-type lead, which I programmed in octaves, was perfect.

WE'RE CONSUMING OUR MUSIC IN DRIBS AND DRABS, AND THAT SUCKS.

Do you have any favorite keyboard moments on the album that we haven't yet discussed?

There's a fun part at the end of the first single we released, "The Gift of Music." It's light, and started out with what might be a Dregs-ish kind of part in the eyes of my bandmates. I wrote it down, because I thought it would be cool to come up with a line that went *against* it. John then wrote another part you can hear panned in the other speaker, but thought the final result was too quirky to use. I pushed for keeping it, and I'm glad we did!

There's a debate in jazz that may have a parallel in prog. One school of thought says jazz should be straight-ahead and all about bebop; another says it should always be trying new things—the dictionary definition of "progressive."

This is a really big topic, and I talk about it a lot. What does progressive rock mean? To a lot of people, it means you're emulating what happened in the '70s: Yes, Genesis, ELP, Pink Floyd, King Crimson. I think the word came about because those guys were seriously pushing the boundaries for the time, using the energy of rock but the harmonies and rhythms of a whole lot more. I think where we're at now is, we're in that *spirit* but always searching for more musical influences to bring in. That can mean that bands—Dream Theater included—occasionally sound retro and make references, not unlike what modern jazz players do. Everyone in our audience has a Yes headspace, a Genesis headspace, and so on, so we can speak those languages and use them as communication tools. If we can also apply some *literally* progressive ideas, like bringing in ambient electronic influences or using instruments like GeoShred or the Seaboard that people haven't seen before, to me that's really exciting. For my solo music and projects with other groups such as the Liquid Tension Experiment, I'm always looking for that edge, and also to do things that wouldn't necessarily fit in the Dream Theater context. So I get to be progressive in that sense, and at times when musicians come over to my studio and it's a big sonic party where there are no rules! ♫

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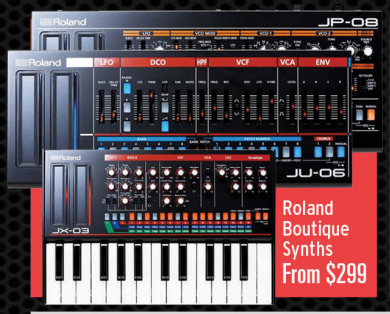

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MUSIC CITY KEYS

FOUR FINE COUNTRY PLAYERS SHARE HOW THEY GOT THE GIG... AND KEPT IT.

BY

BOB DOERSCHUK

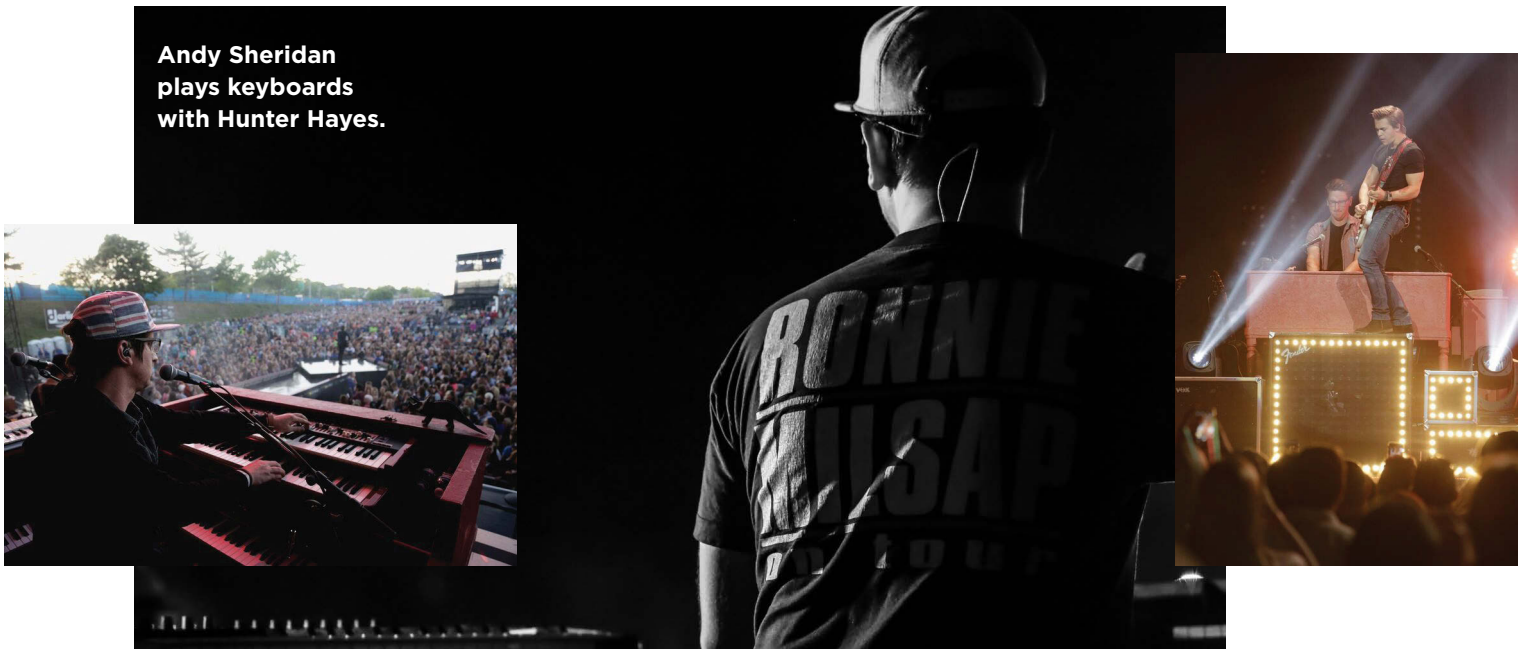
KEYBOARDS AND COUNTRY MUSIC—THEY GO together like steel guitars and Dream Theater, right?

Actually, keys have become essential. Like rhinestone suits and billowy blonde bouffants, pedal steel, fiddle and banjo are no longer mandatory in modern country. They're still front-and-center at the venerable Grand Ole Opry and in display cases at the Country Music Hall of Fame and Museum. But if you're a young country star on the rise, you'd better have someone rockin' organ and piano in your band.

True, they're not hogging the spotlight. Just as in rock 'n' roll, the guitar players get to mince around in the spotlight while the keyboard guy labors in the background. Still, if you're looking for opportunities to tour with some of the top acts in music today, you might want to consider checking out Nashville. After all, *Rolling Stone* did anoint it a few years ago as the most happening music scene in America.

All it takes is talent, a willingness to travel, a little luck, a knack for networking, a relatively simple setup, and hopefully some decent skills on other instruments and backup vocals. It doesn't hurt if you look good with a baseball cap spun backwards on your head, too.

That's more or less how these four road warriors—Andy Sheridan, Reggie Smith, Jeffrey Harper, and Lee Turner—made their break. Their stories could be yours, too, by the time the next CMA Music Festival kicks off in Music City.



Andy Sheridan plays keyboards with Hunter Hayes.

ANDY SHERIDAN

Most auditions in Nashville take place in rehearsal rooms. When Hunter Hayes invited Andy Sheridan to try out for his band, he had something a little bigger in mind.

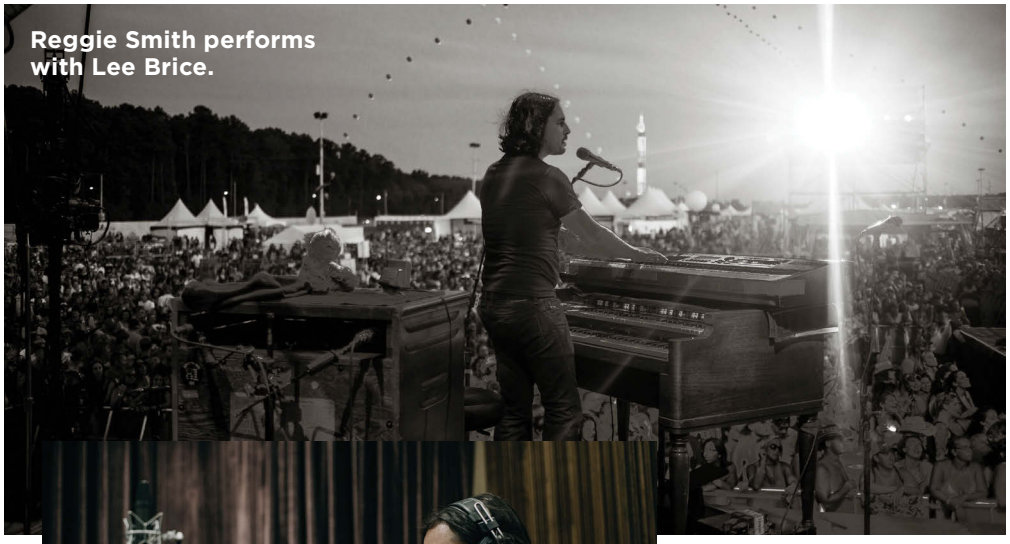
"My audition involved playing with Hunter and Stevie Wonder live on the ACM [Academy of Country Music] Awards, in front of millions watching on TV," Sheridan recalls. "In other words … no pressure!"

That wasn't the only intimidating factor. Hayes is known in country music as a wizardly multi-instrumentalist. "That was part of Hunter's initial claim to fame: He played everything on his [2011 eponymous] debut record," Sheridan says. "But on the other hand, during that first year when we were playing off of that record, if I had any questions I could just ask the guy that played everything on it. That definitely helped me."

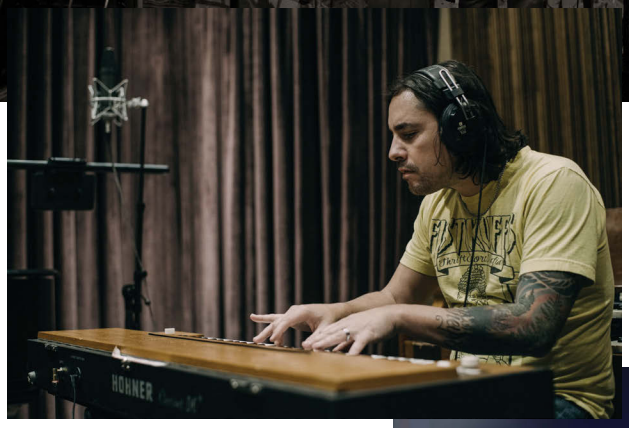
Sheridan had some advantages of his own when he moved from Washington Courthouse—"a little cornfield town in southern Ohio," he calls it—to begin his studies at Nashville's Belmont University, a wellspring of both musical and executive talent for the country music industry. First of all, he was fully equipped as a player: His father was a classical organist and his mother taught piano. She gave him his first lesson shortly after he turned 3. Then, while he was still at Belmont, Phil Vassar recruited him for his band. Vassar is that rarest of rare birds in Music City—a celebrated singer, songwriter, and entertainer who also happens to play tons of piano, on record and onstage. "Other than playing around at Belmont and a little bit in town, I'd had no experience with country/pop playing," Sheridan recalls. "But Phil threw me right into that mix. He's a monster player and I learned a lot from him."

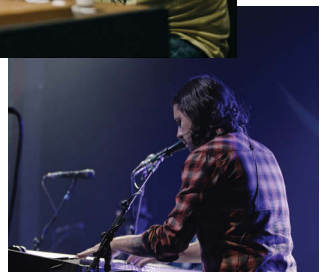
As much as he picked up from Vassar, the Hayes gig equally values his ability to double on guitar and to sing harmony parts—in local parlance, to function as a "utility player." "I guess that's really how I got my position," says Sheridan, who serves as Hayes' music director. "Every keyboard guy I know in the country world plays at least one other instrument or sings. A friend told me when I moved here to stick all my irons into the fire. Whichever ones get hot first, pull them out and run with them. It was actually cool to not have to become the best keyboard player or B-3 player but to be as well-rounded and versatile as possible. The more you know here, the more opportunities will present themselves."

When he does man his Nord C2D, Nord Stage and Korg Kronos, Sheridan remembers that his mission is not to show off but to make each song work. "Hunter's songs have so many electric guitar parts, acoustic parts, mandolin parts. I'm not necessarily trying to cover them exactly, but maybe I can take the same space a chunky rhythm guitar would have and give it a little bounce. Or I'll double certain parts with a piano, synth or B-3 line. But there are plenty of times in the show where Hunter lets us jam and go for it. As long as the boss is happy with that, so am I!"



Reggie Smith performs with Lee Brice.





REGGIE SMITH

Alabama native Reggie Smith more or less ambled into his gig with popular singer/songwriter Lee Brice. In fact, their first encounter was so low-key that Smith didn't even know who Brice was when they met.

"I'd gotten this call to play with Lee in Fort Wayne, Indiana, opening up for Luke Bryan in a park for maybe 2,000 people," he remembers. "I was feeling very out of place, standing next to this little RV trailer that they'd provided. Then this guy comes up with his hat down low and his sunglasses on, with a bottle of Jack Daniels. He looked a little lost too. We were just standing there until I put two and two together and said, 'Are you Lee?' He said, 'Yeah, man!' I said, 'Hey, I'm Reg. I'm playing keys with you today.' And he said, 'Wow, that's pretty cool! Come on, let's do a shot!'"

More than eight years and many rounds of Jack have passed since that day that Smith became a member of Lee Brice and the Love Cannons. Much time had already elapsed since he had moved up to Nashville from Birmingham, where he'd been playing country music since age 13. He started off backing aspiring young artists on showcases. "They had limited cash, which I was happy to take," Smith recalls. "I didn't know much about pop country until then because I'd mainly been listening to Roger Miller or the Highwaymen (Johnny Cash, Waylon Jennings, Kris Kristofferson, and Willie Nelson). To me, the Band—Richard Manuel, Garth Hudson—was pretty country. The pop stuff wasn't on my radar until my early 20s."

With Brice, Smith combines elements of what he calls "pop country" and the singer/songwriter focus of the more outside country he grew up with. "There was a little more democracy with rock bands," he points out. "With Lee, his name is up there and we are at the service of his songs—and that's fine. My favorite keyboard players serve the song. And I love being a texture player. I love really good songs. I love being dynamic and subtle in a way that maybe nobody notices unless you're suddenly not in the mix."

From behind his vintage B-3 and Yamaha S90, Smith pursues that same mission by watching Brice closely during each show. "I'm dead-even downstage with Lee," he notes. "He's in my line of sight at all times; he has to be because he can go off the chart a little bit. There are several points in 'I Drive Your Truck' where I can tell when he's got that adrenalin pumping and he's going to go up that ladder. That affects the way I play because even in a split second he'll do this vocal thing that I have to follow.

"You've got to pay attention," he sums up. "Pay attention to your drawbars. Always think texturally. Think dynamically. Listen to the players around you; that's especially important for keyboard players. The guitar player is always going to be …" Smith strikes a heroic guitar-hero stance, then lets it go and laughs. "But that's how rock music is built. And pop country is built that way, too, these days. What can you do? That's just the way it is."

JEFFREY HARPER

Like Reggie Smith, Jeffrey Harper hails from Birmingham, Alabama. The difference between them was that Harper was pretty much oblivious to country music as he was growing up.

"My parents raised me on the Beatles," he says. "But for years all I played was classical piano; Chopin for the romantic, Beethoven obviously for the classical and my favorite of all time is probably Debussy. When I sit down at my grand piano at home, that's still mainly what I play."

Yes, but one cannot move to Nashville without at least getting one's feet wet in the country current. Harper was a quick learner: He enrolled at Belmont as a piano major, then switched to commercial guitar shortly after that. (In Belmont-speak, "commercial guitar" means primarily jazz with a bit of rock and country. Sheridan's Belmont degree is in "commercial music.")

As a utility player and adept networker, Harper developed connections through playing wedding gigs throughout college and at Tootsies Orchid Lounge, Legends Corner and all the fabled honky-tonks of Nashville's Lower Broadway. Many of country's best musicians and performers learned the ropes on late-night gigs there—as vital a curriculum as Belmont's "commercial" courses.

"I can't say enough about playing on Lower Broad," Harper says. "It keeps your chops up when you're playing four hours a night. Someone will get up onstage and you have to go off what you hear, listening to the changes. They'll start a song and I'll say, 'What key? Are we doing the Broadway ending?' Like if you're doing 'Don't Stop Believing,' you have the *a cappella* vocal at the end and a V-I."

People there steered him into gigs on keyboards and guitar with Love and Theft, Katie Armiger, and Justin Moore, each one a hot up-and-coming act. His big score came through his best friend at Belmont, Matt Reviere, who had just been hired to play drums and lead the band with *American Idol* winner Scotty McCreery. After a while, Reviere left to work with The Band Perry and Harper got the nod to take over as bandleader.

"With Scotty I play organ on a couple of songs but for the most part it's just piano," Harper says, who finds the bright edge of his Yamaha S90 piano sound ideal for country and his Yamaha MOTIF perfect for organ parts. "I might have an occasional synth pad underneath, but with just some good old bright piano, you can't go wrong as long as you keep it simple. You can't go wrong playing exactly what's on the record. I listen constantly to what the other guys are playing to make sure I stay out of their range. If the bass is walking real low, I'm not going to do low stuff on the keys."

Unlike many young country artists, McCreery pays tribute to his forebears by including a medley

Scotty McCreery's keyboardist and bandleader is Jeffrey Harper.

of classic tunes in his set: Merle Haggard's "Mama Tried," Johnny Cash's "Folsom Prison Blues" and Alabama's "Mountain Music." For these tunes, Harper honors McCreery's intentions by altering his approach. "With the classic stuff, there are more open fifths," he explains. "They weren't afraid to land on a triad, whereas on the pop stuff there are more extensions; lots of ninths. So I'll go back a little more to the roots."

LEE TURNER

Milwaukee-born Lee Turner came to Nashville 19 years ago. Less than three weeks after his arrival, through hanging out at CD release parties, he met and was hired to play with Asylum Records artist Kevin Sharp. That led to stints with Jennifer Hanson, Ty Herndon, Wade Hayes, and The Kinleys, followed by a five-year run in the house band for *Nashville Star* on the USA and NBC networks, which in turn paved the way to working with Big & Rich, Cowboy Troy, Jewel, Alabama's Randy Owen, Hank Williams Jr., Wynonna ...

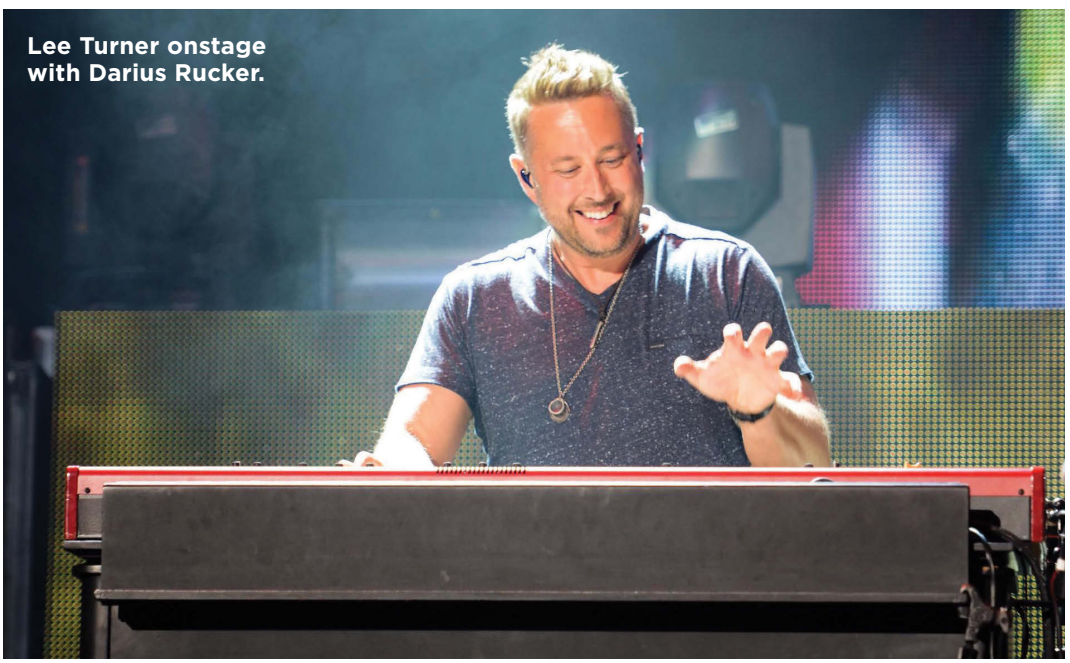
"I just networked," he explains, matter-of-factly. But there was more to it than that. Research was a critical factor in preparing to leave Milwaukee. "I grew up reading *Keyboard*. I was huge into Howard Jones and Richard Marx and Paul Shaffer. There was a lot of synth stuff going on back then. But as I started looking into country music, I realized it's organ and piano, at least for playing live, with a little bit of Wurlitzer and maybe a string pad. That's all you need to cover your bases. It's all about organic sound."

So Turner chiseled his approach down to the basics in part by sitting in at blues jams that were happening at the time around town. Picking up work with big-time artists, he kept his focus tight, eventually putting together a rig that centered on a Yamaha MOTIF and a Nord Stage 2 for piano, Wurlitzer and string sounds. This was the heart of his arsenal when a friend who was organizing auditions for Darius Rucker's band tipped Turner off.

Here, for once, the value of knowing and networking with people didn't cut any ice for Turner. "Management was there and they didn't know who I was," he says. "They didn't *care* who I was. It was only, 'How does this guy play? How does he fit in?'"

Not only did he get the gig, but Turner was also offered an unexpected perk. "Jason Parkin, who we call 'db,' Darius's production manager, asked if I would mind using Hootie's B-3 and Leslie. Would I mind?" he answered rhetorically, with a laugh. "I have a B-3 at home but I wouldn't take it on the road because it's so valuable and I didn't want to scratch it up. So this was amazing."

More bounty followed. "A year ago, db says to me, 'What can we do to make your keyboard rig bigger?' That's the rock 'n' roll mentality: It's going to make the show better, so if it costs a couple more bucks, that's fine. So we went to Murph Wanca, who owns Nashville Pro Hammond, and asked him to put a Wurlitzer together for the road. Now I travel with a B-3, a Wurlitzer, and the Nord Stage 2. The Nord Wurlitzer sound is great, but the real Wurlitzer sound is better, plus there's a great feel to the keyboard. One of Darius's big singles, 'It Won't Be Like This for Long,' has a lot of Wurlitzer, so having the real thing is so much fun. Fun is important. The first time we went out, Darius said, 'Enjoy your job. If you're not happy out here, you can go home.' And I haven't gone home yet." ♫



Lee Turner onstage with Darius Rucker.

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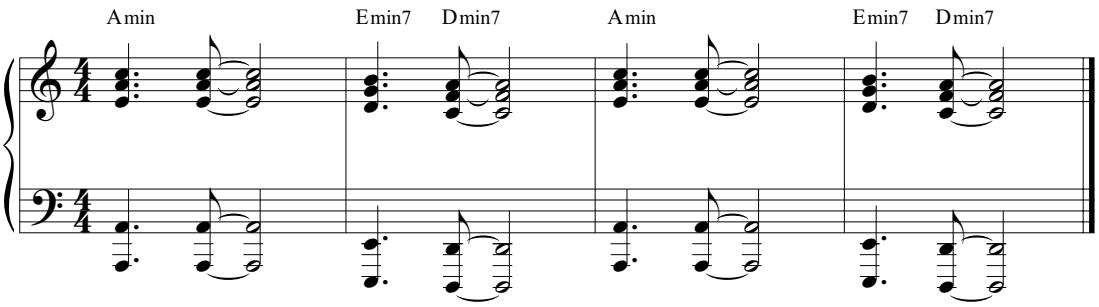
5 WAYS TO GET

Adele's Piano Sound

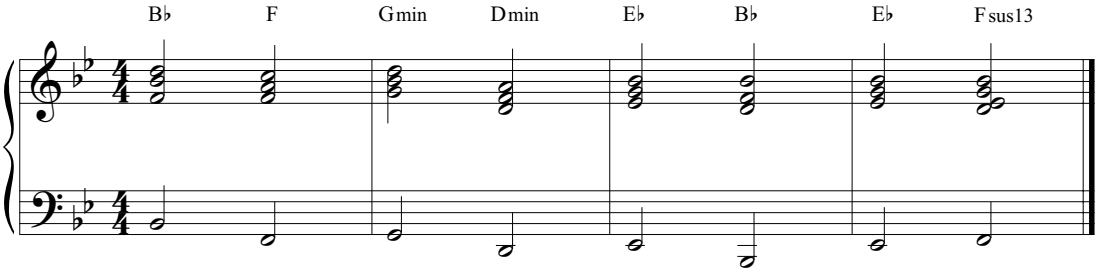
BY BRIAN CHARETTE

THE UNDERSTATED POP ELEGANCE OF THE PIANO PARTS ON ADELE'S LATEST ALBUM, *25*, PROVIDE THE PERFECT accompaniment to her soaring vocals. Let's examine a few ways to get Adele's piano sound on your own tracks.

Ex. 1



Ex. 2



1. Rhythmic Chording

Ex. 1 is inspired by Adele and Greg Kurstin's smash hit "Hello," the opening track of *25*. The song begins with a steady, rhythmic ostinato that supports the vocal. You will see the rhythm in Bar 1 quite often in modern American music: A dotted quarter note followed by a tied eighth note adds motion to the time feel. The chordal notes come from the *A* Aeolian mode (*A, B, C, D, E, F, G, A*). When coming up with your own chord progressions, try to harmonize the Greek modes in triads. That way, you immediately have seven diatonic chords that work well in the selected key. The notes of the left hand are in octaves to give a little more punch to the bass.

2. Diatonic Harmony

Ex. 2 has more diatonic harmony and is influenced by the track "When We Were Young" from *25*. The left hand now only has a single note in the bass to thin out the sound. The progression I've come up with is classical sounding in nature and illustrates some of the interesting harmonic possibilities contained in the major scale; in this case, the *B♭* major scale (*B♭, C, D, E♭, F, G, A, B♭*). The half-note rhythm works well with an involved vocal on top. Sometimes you just need to paint the harmony.

SOUNDCLOUD • Hear Brian play the audio examples from this lesson online.

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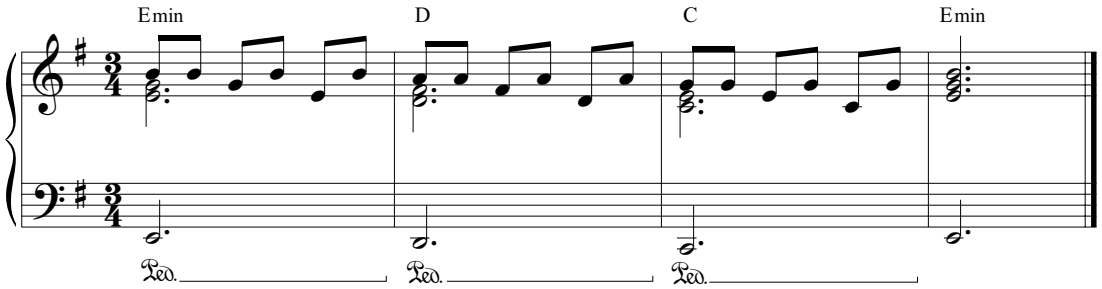
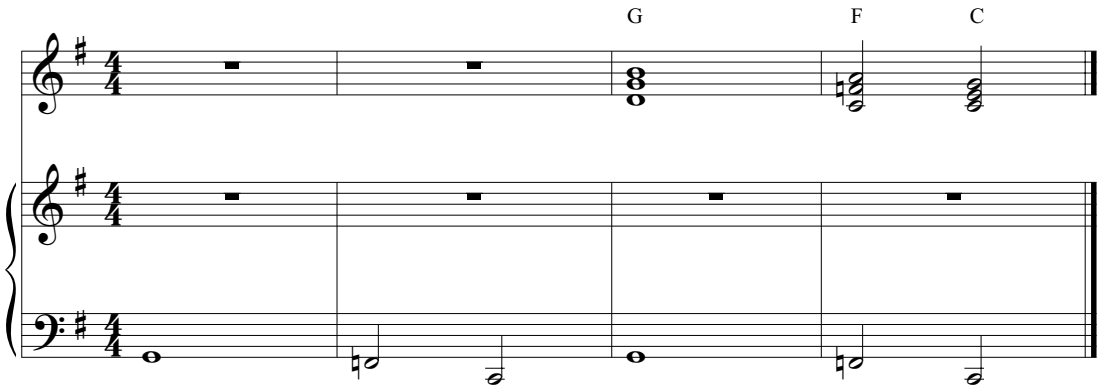
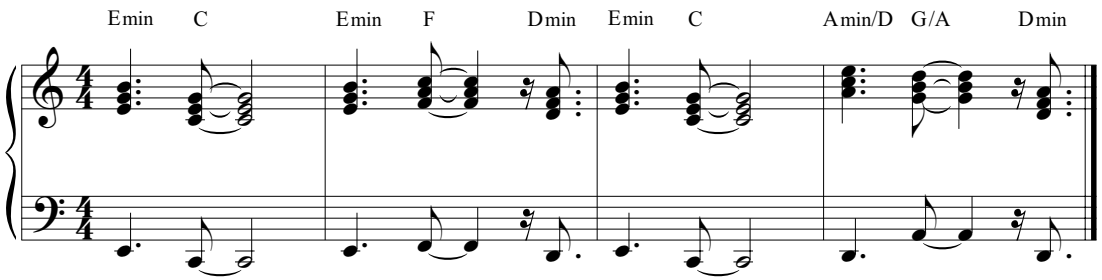
Ex. 3



Ex. 4



Ex. 5



NILS WINTHER

Practice Tip

"Try playing some of these examples with the soft pedal down at times, as it coaxes a warmer, more bell-like sound from the piano," says keyboardist and composer **Brian Charette**, who has performed and recorded with artists such as Joni Mitchell, Michael Buble, and Rufus Wainwright. Charette won *Downbeat Magazine*'s "Rising Star Organ" award in 2014 and recently released the album *Alphabet City*. His new book is entitled *101 Hammond B-3 Tips: Stuff All the Pros Know and Use*. Find out more at briancharette.com.

3. Pedal Power

Ex. 3 adds the sustain pedal and changes the meter to 3/4 time. The right hand strikes the triads, catches the chord in the pedal then fingers the rest of the bar lightly. This progression is in the key of *G* major (*G, A, B, C, D, E, F♯, G*) and is influenced by the piano part on Adele and Ryan Tedder's song "Remedy." As you near the end of each bar, gently let the sustain pedal up and press it down again after the next chord is struck. The single notes are just arpeggios of the chords and have a harp-like effect when played with the pedal down. On the last bar, let the *E* minor chord ring.

4. Delightful Delay

Ex. 4 is inspired by "Sweetest Devotion," and it is meant to be played with a delay effect on the piano. We've put our example in 4/4 time with a delay repeat that happens every quarter note. Experiment with EQ on the piano part, such as a mid-range boost, so a particular frequency is highlighted. This technique can create the perfect space in a mix for an unusual piano part.

5. Sus Chords and Syncopation

Ex. 5 is a study in the use of sus (suspended) chords and syncopation. Influenced by the stabby piano rhythms of Adele's song "Water Under the Bridge," this part is supported by a simple one-note bass line and features a sixteenth-note syncopation at the end of every other bar. This gives the track a slightly aggressive motion. Try putting the sixteenth-note hits on different sixteenth-note subdivisions to explore how they alter the feel. The harmony is in the key of *C* major (*C, D, E, F, G, A, B, C*) and features a few unusual chords in the last bar. The *Amin/D* makes a *Dmin9* sound without the third, and the *G/A* is what jazz guys call a *7sus4* chord. Experiment by combining triads over unusual bass lines and you will come up with your own cool voicings, too! ♫

R&B Comping Workout

BY GEORGE WHITTY

ONE OF THE GREATEST GIGS FOR A KEYBOARDIST HAS GOT TO BE SAXOPHONIST David Sanborn's band. I've played with Dave on and off for 20 years, and his repertoire is fantastic—both harmonically and groove-wise—with him out front playing the alto sax like a blowtorch! Sanborn likes to hear his guitar and keyboard players really stretch out on their solos, so it's a great "blowing" gig as well. For me, the real joy is being part of his rhythm section, which features keyboard parts from over four decades that can be adapted to a wide variety of playing situations. Let's take a look at some of these classic R&B chording strategies.

Ex. 1

Ex. 2

1. Organ Comping

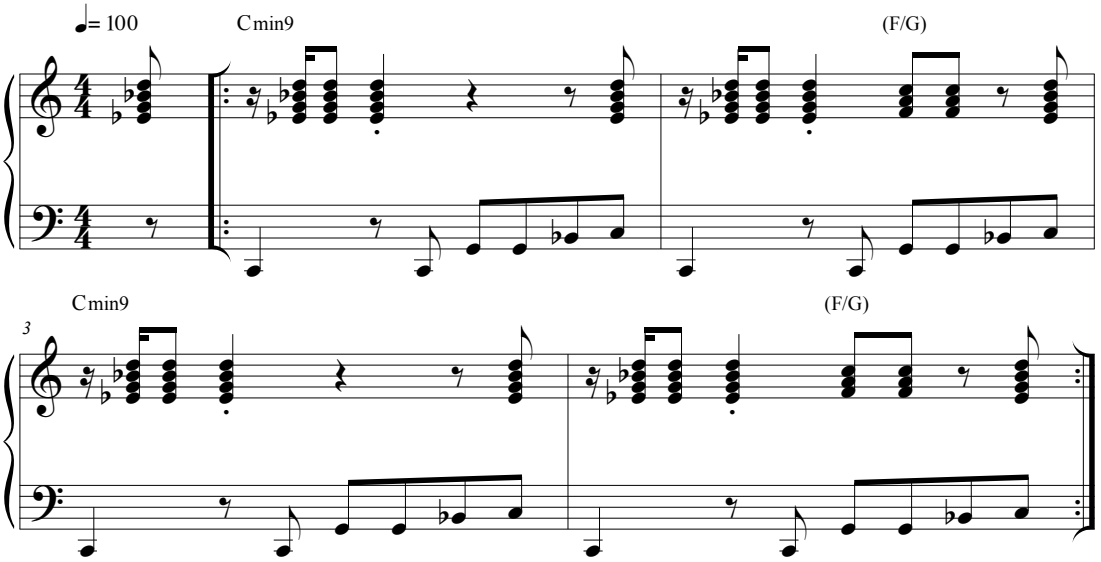
Ex. 1 demonstrates Sanborn keyboardist Ricky Peterson's organ comping on the song "Snakes." Note that there's no third in the chord voicing here, so it's not really a dominant seventh or a minor seventh. This voicing, called a *9 no 3rd* also travels well diatonically. Try moving each note in the voicing to the next note in a *G7* scale to create melodic interest in the part. The little bits in the left hand are really ghost notes, meant more to anchor the figure internally than to be heard. These comping structures fit perfectly with the funky bass line Marcus Miller played on the original recording.

2. Organ Shuffles

Ex. 2 illustrates a classic organ-shuffle feel played by Ricky Peterson on the song "Full House," using a voicing structure similar to the one in Ex. 1. The idea here is to accentuate the part of the beat that's swinging (e.g., the third triplet of the beat), while also fleshing out the harmony a bit. Try changing up the feel a little when the chord changes, as Ricky often does. Lay the off-beats all the way back on the beat. Don't get lazy and straighten the feel out!

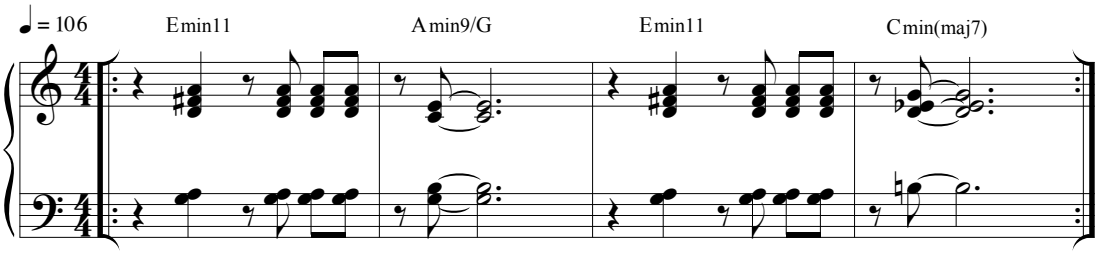
"Notice that at no point in any of these examples are we playing anything *on* the downbeat. The main idea of R&B comping is to dig into well-defined parts while offering some interpretation of your own. Try moving the voicings around, or adding a touch of variation on the basic feel. Most importantly, listen to what the rest of the band is doing and try to frame a place for the soloist to play in. Don't just fill up space," says acclaimed keyboardist **George Whitty**, who has worked with artists such as David Sanborn, Herbie Hancock, Carlos Santana and the Brecker Brothers. Whitty is also the new instructor for jazz piano at artistworks.com and the creator of BURN, an iOS play-along App. His latest release with his group Third Rail is entitled *Ignition: Live Across Europe*. For more info visit gwhitty.com.

Ex. 3



Ex. 4

Ex. 5



3. Clavinet Comping

Ex. 3 uses a clavinet comping pattern and expanded harmony over a funky groove. The basic idea is a *Cmin9* chord, with an *F* triad over *G* interspersed to give the keyboard part another place to go. I look at it as diatonic motion from the *E♭* triad at the bottom of the basic voicing that gives us a little flavor of the (suspended) dominant chord that wants to go back to the root voicing. These voicing structures also have the effect of fortifying beats 2 and 3, which produces a solid comping groove. Check out the track "Chicago Song" to hear this kind of chording in action.

4. Off-Beat Comping

Ex. 4 is inspired by Marcus Miller's song "Camel Island." As this tune features a bass part that really lays on the beat, the keyboard part consists entirely of sixteenth notes that are off the beat, adding the harmony and punctuating the groove. This comping works perfectly against the bass part and is a case study in orchestration over a funk groove. Notice how the same voicing travels up a perfect fourth to give us a little taste of subdominant flavor as a turnaround at the end of the two-bar phrase. Also note that the clustered voicing has the ninth and eleventh in the middle of the chord.

5. Rhodes Voicings

Ex. 5 illustrates the Rhodes comping pattern from Marcus Miller's song "Corners." The basic chord voicing here is an *Emin11*, voiced as *D major* triad with a *G* on the bottom. Notice that, again, we have the *IV* chord as a destination, but in bar 4 we have a *Cmin/Maj7* as a sort of turnaround. Harmonically, this is very similar to a *B7alt* chord, but as the bassist, Miller adds an air of mystery by playing a *C* under it, instead of the *B*. Note that the upper-structure chord configuration still emotes a strong dominant resolution. ♫

Listening List David Sanborn's R&B Comping

Upfront – "Full House" and "Snakes"

A Change of Heart – "Chicago Song"

Inside – "Corners"

Close-Up – "Camel Island"

SOUNDCLOUD

Hear George Whitty play the audio examples from this lesson online.

keyboardmag.com/march2016

BY JERRY KOVARSKY

DEVELOPING THE ABILITY TO FIGURE OUT MUSIC BY EAR IS AN ESSENTIAL part of being a well-rounded musician. Learning riffs, parts, solos, and techniques off of recordings and videos is a time-honored method of study. Many times I get called for a gig and am only given an email list of YouTube or Spotify links to learn the songs from. Worse, I have been on jobs where there were charts with obvious mistakes. Playing the wrong chords/voicings for a Steely Dan song should be grounds for immediate exile to a muzak-themed purgatory, right?

You might think that with all the resources available on the Internet you could simply look up the song title plus the word "chords" or "sheet music" and the answer would pop up. Unfortunately, while many answers do pop up, in far too many cases they are close, but not actually true to the recording or original performance. Many chord and guitar tab sites are user-contributed and they are either too basic or innacurate.

Furthermore, sheet music typically provides a vocal staff plus solo piano accompaniment, not the part you need to play within a band context. Many critical parts of the song that we are required to cover are not part of that simplified arrangement. So if you care enough to get it right you often need to do it for yourself. Luckily, there are wonderful tools available to help you get the job done. Let me share a number of techniques that make the task simpler, faster, and more rewarding.

The Rest of Us

Some musicians are blessed with perfect pitch and just know the notes they are hearing with no effort required. But the rest of us have to work at it and develop the skills. I'm a perfect example; I grew up reading printed music and used whatever sheet music and songbooks I could buy, or I relied on other band members to help me with my parts. Once I started formal music studies, I worked hard at my music theory and ear training courses to make up for my deficiencies. So if I can do it, trust me, you can, too.

The Fundamentals

Like most things in life, there are no shortcuts. Training your ears (isn't it really your brain?) to recognize pitches, intervals, and chord qualities is an essential activity. You can find plenty of books, software, and online exercises, and I've listed some of the better ones at keyboardmag.com. Studying with a teacher is always recommended, and even just getting together with another player and working on these skills can be rewarding.

The ability to recognize intervallic jumps is fundamental. Most methods of study teach you to hear the various intervals by associating them with a well-known song. Play a *C* to an *F* (a perfect fourth) and you hear "Here Comes the Bride." Play an *E* to a *D* above it and you might hear "Somewhere" from *West Side Story*, or the opening of "Josie" by Steely Dan. And so on.

Being able to recognize the sound of basic chord qualities is also essential. You need to know the sound of major, minor, suspended, diminished and augmented triads, as well as the various seventh chords, at a minimum. Using the various software tools available, you can easily hone these skills; all it takes is some dedicated practice.

Better Tools and Techniques

With that background established, let's get into my recommended ways of working. The most important tool you'll need is a software program that can slow down audio without changing the pitch. This function is available in most DAWs (digital audio workstation software), but I don't recommend using them because there are dedicated applications that focus on this task. The top titles include:

- Transcribe! (seventhstring.com; Mac/Windows/Linux)
- AnyTune (anytune.us; Mac and iOS)
- Capo (supermegaultragroovy.com; Mac/Windows)
- Capo Touch (supermegaultragroovy.com; iOS,

Fig. 1: Priced at $9.99, SuperMegaUltraGroovy's Capo Touch for iOS is bargain, as it can help detect chords and beats as well as slow down recordings without changing the pitch.

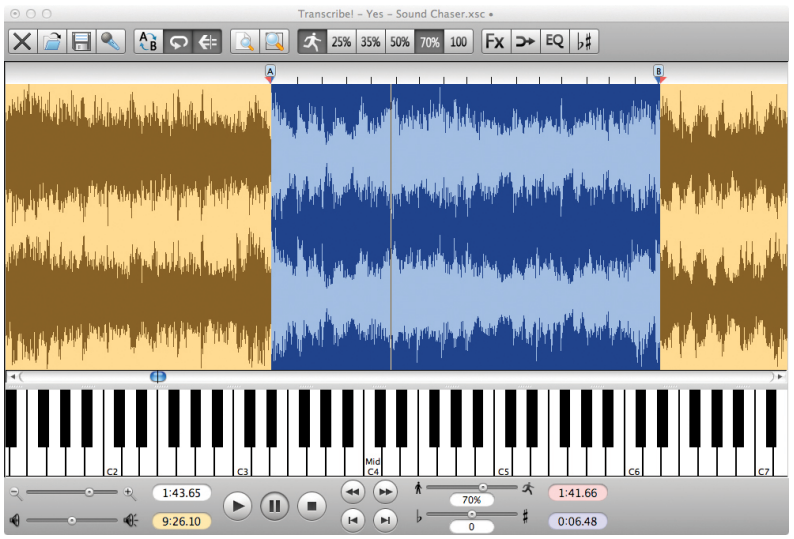
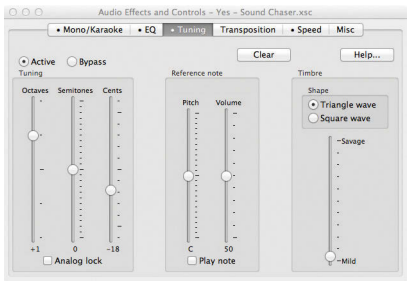


Fig. 3: The main screen for *Transcribe!* with a section highlighted for looping. Note the small lines above the section where I tapped in beat markers to help match the waveform to the tempo.

Fig. 2: This shows the tuning page in *Transcribe!* with Cents adjusted to match my keyboard. Note the Octaves slider on the far left, which I often use for bass lines.



see Figure 1)

- Amazing Slow Downer (ronimusic.com; Mac/Windows/iOS)

I recommend these tools (especially the top two) because they are designed specifically for the task of learning/transcribing music. For example, they allow you to set marker points to locate sections quickly (bridge, solo, difficult lick, etc.), endlessly repeat sections of the song, speed up and slow down the music without changing the pitch, and change the pitch without affecting tempo. Plus, they usually have EQ tools and other unique features to help in the process. Let's walk through an example session.

Getting Started

If you're new to learning by ear, start with something really simple and just try to figure out the basic chords. Load your audio file into the software and play it over and over again. You want to get familiar with the song and listen for things such as how often the chords change, whether they are simple or seem to have some complex or fancy alterations. Get to understand the form of the song, and especially how many different sections there are, as opposed to repeats of the same sections.

After a number of passes try to play some notes on the keyboard to figure out what key the song is in. You should slow down the song slightly to make this more comfortable. Focus on the bass player; most of the time they will be playing the root tones of the chords. Finding the key of the song gives you a guide to what notes are likely to be used, drawing on the major or minor scale of that key. That's not a strict rule, but it helps.

Tune Up

You may find that your keyboard sounds out of tune when playing along with the track. Artists sometimes speed up or slow down a recording intentionally to give it a quality they like—especially how it affects their vocals. Or you may be working from a copy of a recording that was unintentionally played back at the wrong speed.

Here you have two choices: Go to your keyboard or software instrument and adjust its tuning until it sounds right, or use the pitch control on your player application to tune the track up or down to match your keyboard (see Figure 2). Whichever method you select you'll be using the fine-tuning control, which shows increments in cents, not semitones. This works best after you have found the key, or root tone, the song is playing in.

Loop It

To really get down to work, you'll want to focus on small sections of the song at a time. I often work on one to four bars at a time for chords, even less when I get into figuring out riffs and solos. To set the software to play a section over and over (called looping) you may have to press an onscreen button to set the start (or in) point and then another to set the end (or out) point while the song plays (see Figure 3). The better apps will also support key commands from your computer keyboard or even MIDI input. I always have the song playing slower when doing this, and I may have to adjust the values a bit to get a loop that plays in time. Some applications show a visual waveform and you scroll over a section to select it (see Figure 4).

With a region selected you can now play along with the slowed-down music and try to find the notes of the chord. There are two things to consider when doing this: What is the root, or name of the chord, and what quality is the chord (major, minor, diminished, augmented, seventh, etc.)? I like to start by finding the root of each chord, and I focus on the bass line to do this. It is

Fig. 4: The main screen for *Anytune*, showing a section set up for looping.

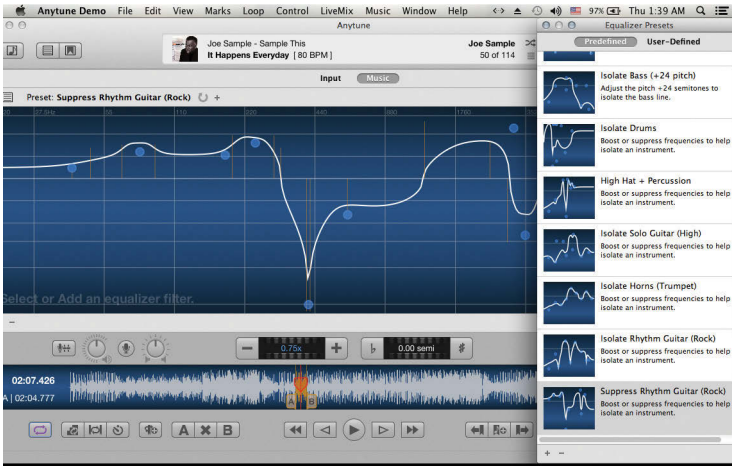


Fig. 5: The EQ screen in *Anytune*, complete with presets and a nice graphical display.

very helpful to try to sing the pitch you're hearing, so you can stop the track and find the note on the keyboard that you are singing.

Hearing the Bass

Sometimes I find the bass pitch hard to hear clearly. This happens when it is a synth bass with a lot of low-EQ boost or a sub-tone, or within a muddy mix. In these cases I will pitch the track up an octave, bringing the bass into a much clearer register. Yes, it sounds funny, but just focus on the bass notes, not the whole track.

Other times I will go to the software's built-in EQ and boost one of the bass frequencies to help hear it. If it is muddy I will go to a low-mid frequency, not the lowest bass to add some clearer pitch to the sound. Generally, bass low end is strongest between 60 and 80 Hz, and adding clarity to the tone comes from increasing frequencies above this range. You can also cut the lowest lows (below 50 Hz) to get rid of any muddiness. Most software lets you save EQ presets so you can build a library of often-used settings.

Finding the Chord Quality

I tend to start by listening and trying to recognize if a chord sounds major, minor, diminished, and so forth. If you have found the bass note it is often the root or name of the chord, so you can try playing that chord (you hear a *G*, you play a *G* chord) with these different qualities to see which matches.

The second most common tone a bass player uses is the fifth of the chord, so you can try that as well (you hear a *G*, you try a *C* chord). If that is still hard, I recommend setting a loop range to capture just one hit of the chord, be it from a keyboard or the guitar. This very small segment will now repeat that chord over and over, letting you focus on that single event. I tend to slow the track down even more when doing this, to lengthen the chord hit. Play along, first confirming the root, then trying the third to see if it is major or minor, and then going up the harmonic "ladder" (fifth, seventh, etc.) to find the other notes.

If you still need help you can set the loop points so close that you only grab the very attack section of the chord, setting the end point so close to the start that the chord doesn't decay. This is the same as looping a sample on a few cycles, and while the tonal quality becomes more of a buzz than the natural sound, it gives you a very clear, sustaining target to match to. I use this freeze-the-chord technique to figure out advanced jazz voicings all the time.

Don't always assume you have to start at the beginning of a tune. If it has lots of repeats of sections (verses, choruses, bridge) you may find it easier to hear the bass or chords in one of the later instances, or when the instrumentalist plays the part slightly different, but in a way that makes it simpler for you to figure it out.

Clearing the Way

In some songs it can still be hard to clearly hear the chords, or a clav comping part, or string/horn line. In these cases, I go to the EQ to clear other frequencies out of the way (see Figure 5). I always start with this subtractive approach before boosting a frequency because I find thinning out the track helps best.

Since I already know the bass notes, I first cut those frequencies, often everything below 250-300 Hz. This removes all the bass, bass drum and lower mud, helping to expose the midrange meat of those parts. I often cut some of the highest frequencies, as well, to get rid of cymbals and hi-hats, which can mask a lot of sound.

Once I remove the far extremes, I can focus on the part that is left. If needed, I boost a single band or two of the remaining frequencies to bring the part into clearer focus.

Some software offers advanced features like a vocal remover (karaoke mode) which works by taking any signal that is present in both channels of a stereo file and mixing it with a phase-reversed version of itself to cancel it out. This works in varying degrees of success based on how the tune was recorded and mixed, but it is worth exploring if available, as the vocals may distract you.

Stop!

Another really effective technique is to stop the track just after a chord hit. This leaves the sound hanging in the air, and in your aural memory as well. Then play what you think it is on your keyboard, or sing it.

Stopping also takes on another meaning: After a while your ear and brain get fatigued. At that point it's helpful to stop working, get up and do something else, then return when you're refreshed. I also find that stopping and coming back to the task the next day really helps my perspective, and parts that were giving me trouble suddenly become very clear. I also will search YouTube for anyone posting a "how to play" video of the song I'm working on, just to compare what I'm doing with what they offer. Some are really good, while others... not so much.

Practice Makes Perfect

Master these techniques and you can move from simple songs and parts to more complex tunes and solos. The main difference for me when working on solos is that I slow the music down much further, and work on even smaller sections.

The time spent learning songs by ear and transcribing them will not only sharpen your ears, but will help you on gigs, at jam sessions, and in bridging the gap between what you hear in your head and what you can quickly realize with your fingers. ♫

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THE ART OF SYNTH SOLOING

Crossover Master Jeff Lorber

BY JERRY KOVARSKY

A NUMBER OF TIMES OVER THE PAST 50 YEARS, AN ARTIST HAS COME ALONG who absorbed the vocabulary and energy of the music around them, and brought it great(er) commercial success as instrumental music. I am thinking of artists like Horace Silver, Ramsey Lewis, and Booker T. and the MG's.

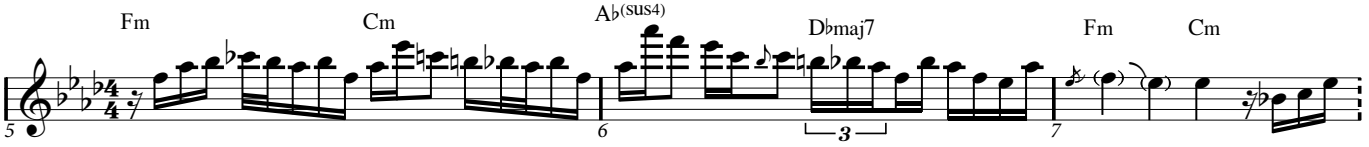
To that list I add Jeff Lorber. Jeff took the energy and rhythmic foundation of funk, added his formidable jazz chops to it, and has written highly melodic tunes to feature it all. He has always been a fiery player and his early recordings showcased a band hitting hard. Sure, he has done a lot of pop and smooth jazz production work, but left to his own devices, and certainly when you see him live, Jeff comes to play. This month I am delving into some of my favorite Lorber licks and synth solos from his defining early years.

Equal Parts Funk and Jazz

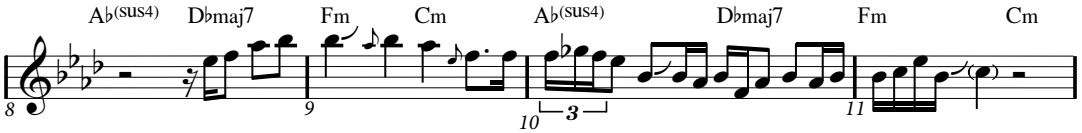
From his emergence in 1977 through the mid-'80s, Jeff played synths on his recordings, often soloing with them. He was never a pitch-bend jockey, but always employed it sparingly, laying down tasty, melodic solo lines. A large part of that style was based on the minor pentatonic and blues scales, and he developed his lines wonderfully. Take a look at **Ex. 1**, the opening of his solo on "Always There," a classic Ronnie Laws composition Jeff covered on the *It's a Fact* album in 1982. He opens with an *F* minor pentatonic riff, which slips into one of his signature bluesy licks in the second part of bar 2. Notice his frequent use of grace notes as well. **Ex. 2** shows another riff a few bars later, where he uses that same blues lick to build a nice series of variations. And in **Ex. 3**, he works the pentatonic scale again; while it is not overly complex playing, it is highly melodic with well-paced development. I have placed the whole solo chorus online for further study. Plenty of good licks to cop!

What drew me to Jeff's playing was how he blends this pentatonic/blues playing with more overt jazz lines. Without a doubt, my favorite solo is on his tune "The Samba" from *Soft Space* (1978). Loyal readers of my column will remember that I covered Chick Corea's guest solo on the same tune back in October 2015.

Ex. 1. The opening line from Jeff's solo on "Always There."



Ex. 2. Another great phrase from the solo: note the call-and-response development.



Ex. 3. A third pentatonic phrase from the "Always There" solo.

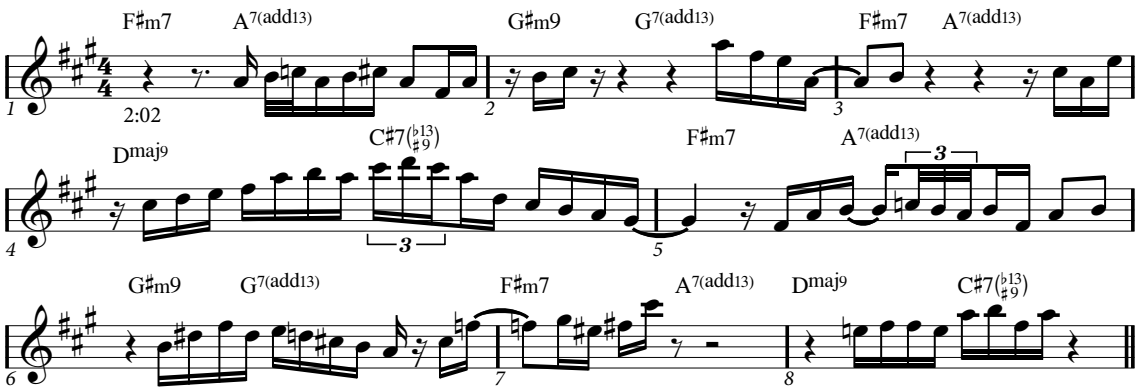
Ex. 4 shows the opening of his solo, which works the *F♯* minor pentatonic and blues scales over the more jazzy chord changes. In bar 4 he moves a bit jazzier, outlining the *D* major seventh nicely and then moving into a more bebop-based line for the *C♯* dominant with the altered color tones. That line is based on the *C♯* altered dominant scale, which comes from the jazz vocabulary (see **Ex. 5**), and is a favorite of Jeff's. It resolves very colorfully into the ninth of the next chord. In bar 5 he returns to bluesier soloing, only to come back to the jazz in bar 6, with a tasty ii-V-i lick straight from the bebop language. Notice how he uses he same altered dominant scale, but this time it's over the *G7*, which in jazz pedagogy is called a tri-tone substitution for the *C♯7* chord. The line resolves into the *F♯* minor using the major seventh tone, a wonderful jazz color. Not to lose the listener, he finishes up with some straight pentatonic—such a perfect blend of the two worlds. The whole solo is posted online, and it is a wealth of tasty playing; I was tempted to devote the entire column to this one solo!

Ex. 6 is taken from "The Magician," also from his *It's a Fact* recording. It gives us a chance to see how those pentatonic/blues lines work on a tune that is in a major tonality. The first four bars are pretty straightforward: It doesn't matter if you think of the scale as a *B♭ major* pentatonic or *G minor* pentatonic, it's the same notes. This is an example of superimposing a different pentatonic scale over a key center (*B♭/Gm* over the key of *E♭*), as I discussed back in the November 2014 issue. The grace notes and slight bends add some soul to these great lines. Using the *E♭* in bar 4 helps to keep the major tonality clear, and is a nice melodic touch.

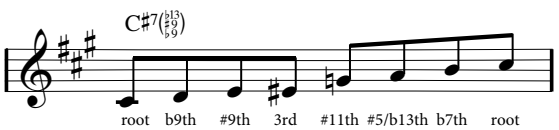
Leading into bar 5, Jeff brings the jazz, with a 2-bar phrase that superimposes some classic be-bop for a *Cm7* to *F7* altered sound, which is the ii-V7 in the key of *B♭*. This "flattens" the harmony for those two bars in a tasty fashion: You can't look at the notes at the start of bar 6 as a suspended chord; they work on a dominant seventh with a flat ninth. But the line "settles" back into the suspended quality expertly. Moving into bar 7, he plays a great little *B♭* major blues lick to finish the phrase out.

Plenty to Learn

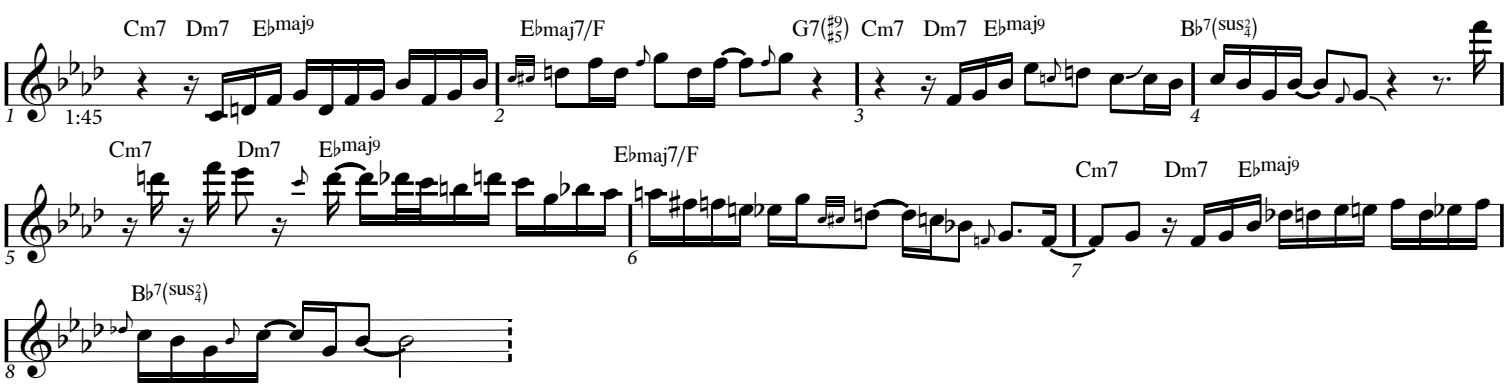
Since returning to recording under his name again in 1991, Jeff has eschewed the use of synths except for background colors, preferring to solo on acoustic and electric pianos. He's making some of the best music of his career, and I highly recommend you check out his recent recordings to pick up some more tasty licks from this master. If you play pop, funk, and R&B, you would do well to develop some vocabulary from Mr. Lorber. ♫



Ex. 4. The opening section of Lorber's solo on "The Samba," showing his masterful blend of blues/funk and classic jazz vocabulary.



Ex. 5. The Altered Dominant jazz scale, which is used over a dominant seventh chord with altered ninths and thirteenths.



Ex. 6. Jeff's opening solo phrase from "The Magician," utilizing pentatonic lines and a tasty bebop lick in bars 5 and 6.

Simpler Secrets

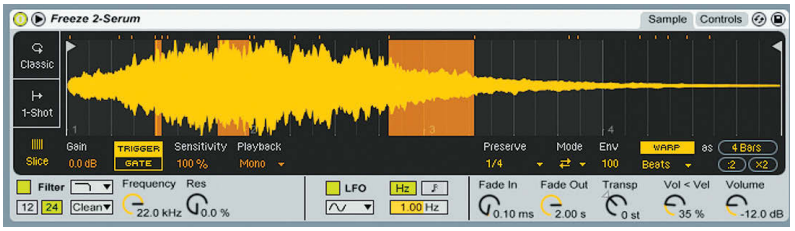
MAKING THE MOST OF LIVE 9.5'S NEW FEATURES

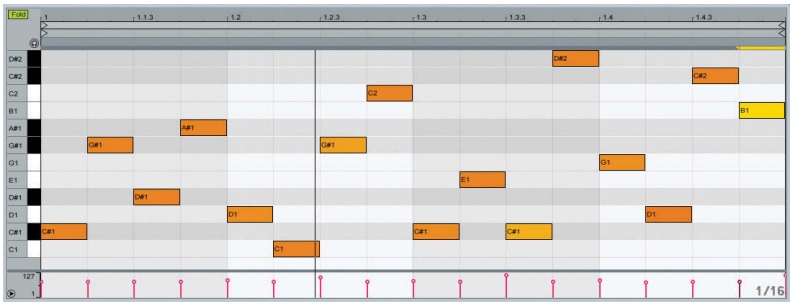
BY FRANCIS PRÈVE

ABLETON LIVE 9.5 INCLUDES A SLEW OF NEW FEATURES, but the real show-stopper is the update to the Simpler instrument. Simpler began as a basic sampler that could accommodate a single audio file mapped across the entire keyboard. It included multimode filters, three ADSR envelopes and an LFO that could be routed to pitch, volume, filter cutoff and panning.

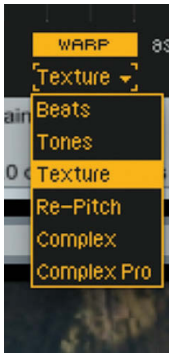
With Live 9.5, Simpler now includes integrated slicing algorithms, hassle-free time-stretching, and some of the best analog filter models I've ever heard. Moreover, many of Simpler's original synthesis functions— such as the filter and envelopes—are now graphically editable, making them much more approachable for newcomers.

This month we'll explore a few unusual sound design tricks that may not be immediately apparent to users.





Slicing. Simpler's new one-click slicing algorithm intelligently detects transients and instantly applies them across any sample loaded into its memory. While Ableton's Slice-To-MIDI feature is still available for deeper work, being able to quickly chop and dice audio is a godsend for rhythmic music of all kinds. While the most obvious applications are drum loops and a capellas, using the slicing tool on evolving drones is a fantastic way to add rhythmic complexity to samples that contain shifting harmonics. Chopping an extended didgeridoo recording is an obvious tactic, but if you have a wavetable synth like Xfer's Serum, you can take a preset with morphing characteristics, sample a few seconds of a note or chord, then apply Simpler's slicing algorithm. From there, experiment with various rhythms on your keyboard (or better still, drum pads) and bingo, you've got a timbral pattern that would be nearly impossible to duplicate without a lot of tedious step-sequencing.



Warping. The addition of Ableton's time-stretching algorithms is a quantum leap forward for Simpler, but the new algorithms have distinct strengths and weaknesses that may not be immediately apparent, so here's a rundown of each mode that goes a bit deeper than the descriptions within Live.

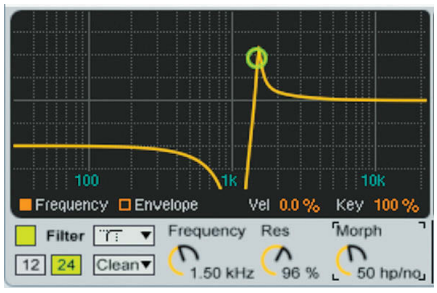
Beats: Optimized for rhythmic loops and the default mode for Simpler. If you're working with instrument samples or vocals, you'll want to change it immediately.

Tones: This mode is reminiscent of the time-stretching algorithms found in vintage hardware samplers. Economical in terms of CPU usage, but it tends to smear the details of your sampled audio. Use this with harmonically simple sustained sounds.

Texture: A variation on Tones, but with a bit of granular magic added. I've always been a fan of this warping mode, as it adds a chorusing effect with a touch of noise-like harmonic motion.

Complex and Complex Pro: These incur a steeper CPU hit, so using these with polyphonic material may impact older computers. Complex mode is great for audio of all kinds. Complex Pro is better for mixed musical content, as it sounds *really* strange on a capellas and solo acoustic instruments.

For the audio examples on Keyboardmag.com, I created a multi-octave layer using three different modes—classic, complex and texture— so you can hear each of the new algorithms in a real-world context.



Filters. Derived from Cytomic's The Drop, Live 9.5's new filter algorithms are among the best in the industry, with models of the Moog Prodigy, Korg MS20, OSCar, and a fusion of the latter two. Simpler also includes Cytomic's modeled overdrive characteristics for each filter circuit. Even with the cutoff wide open, adding drive imbues your samples with impressive analog warmth that's different from Live's Overdrive and Saturator devices. So if you want to give your audio more presence and character, tinker with the filter's new drive knob. You won't be disappointed. And if you want to really go deep, pick up a copy of The Drop, as its features go a lot deeper than what's represented in Live. ♫

SOUNDCLOUD Audio examples.

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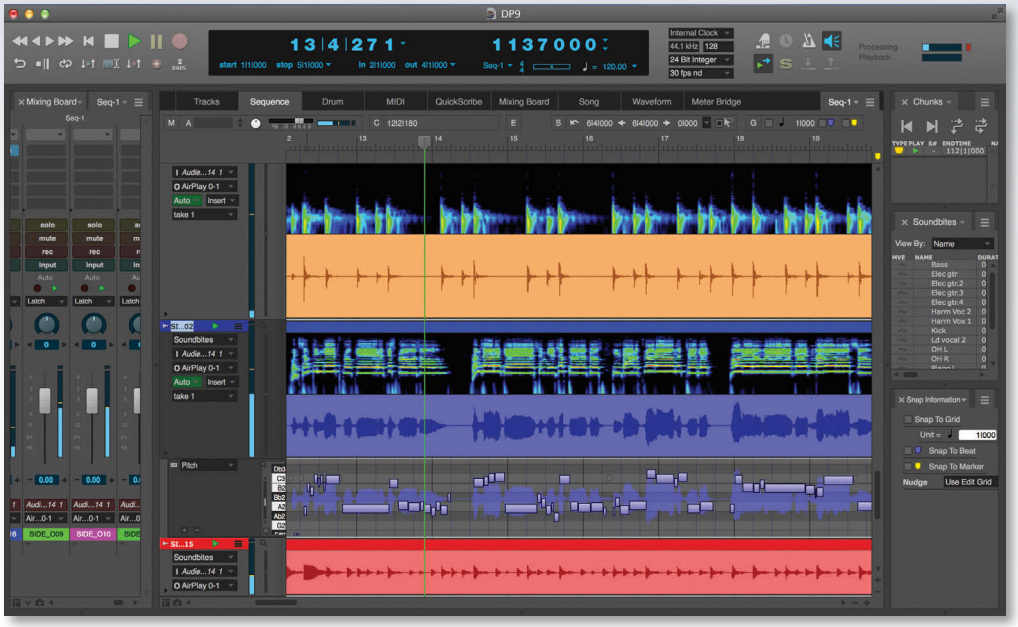

MOTU

Digital Performer 9

BY MARTY CUTLER

MOTU DIGITAL PERFORMER 8 BROUGHT ENORMOUS CHANGES TO THE ALREADY deep feature set of the DAW. Prominent among these was the release of a Windows version and concomitant support for VST plug-ins to ensure plug-in compatibility across both platforms, as well as 64-bit operation. Along with these came a variety of effects plug-ins that re-created classic stompboxes.

Among the many new features in Digital Performer 9 (DP9) are a new look for the GUI, major workflow improvements, additions to its already refined MIDI-editing tools, and subtractive-synth-styled audio plug-ins. For this review, I tested version 9.0.1 on my dual 2.83GHz, quad-core Mac Pro, and later, on my 4GHz, quad-core iMac Retina 5k with 40GB RAM.

The A/V Squad

If you're looking for visual assistance in sorting out your audio track's frequency content, try DP9's new spectrogram view. You have the option of viewing spectrograms alone or in tandem with the waveform view. The display carries with it a number of color schemes and provides a terrific visual aid toward revealing a track's frequency content (see Figure 1). The visually arresting Spectrogram view is especially impressive on my Mac's retina display, as DP9 now supports full-resolution retina displays.

Another important addition in version 9 is the implementation of separate lanes for automation. This gives you an uncluttered view of audio and MIDI data, modulation, and other continuous data streams.

Although the new Create Tracks command sounds like a strictly utilitarian feature, anything that minimizes repetitive routines is welcome. Selecting the New command from the Project menu brings up a small window in which you can set up all of the tracks you may need, of any type (audio, instrument, MIDI) in any number and all in one pass (see Figure 2). This proved to be a great time-saver, and it beats building a project track-by-track, hands down.

Snap Judgment

PROS Create Tracks command provides quick and convenient setup. Megasynth, MicroB, and MicroG plug-ins impart subtractive synth tones to any audio input. MX4 brings animated sounds and sophisticated programming to MOTU's stable of synth plug-ins.

CONS Nothing significant.

Bottom Line

A flagship DAW that keeps getting better.

$499 street (upgrades start at $129)
motu.com

Processing Playhouse

In version 9, MOTU introduced the MasterWorks FET-76, a model of the classic 1176LN Limiting Amplifier that offers all of the controls of the hardware unit. The plug-in is derived from a later revision of the original model that reportedly is favored among users. As with its namesake, you can engage up to four compression ratio buttons at a time or use no compression at all and use the plug-in to impart coloring and saturation.

DP9 also includes three sound-shaping tools, ostensibly aimed at guitarists and bassists but easily configurable for almost anything you want to feed into them. Megasynth is the flagship processor of the trio, with MicroG and MicroB (nominally dedicated to guitar and bass, respectively) offering simpler programming options. I tested the plug-ins using my Brian Moore iGuitar and my Epiphone Genesis solid-body, along with pre-recorded bass and guitar rhythm guitar loops from various sources (check out the audio clips at keyboardmag.com).

Megasynth is an audio plug-in that applies virtual analog, subtractive synthesizer processing to audio signals (see Figure 3). The main voices consist of a square wave, plus octave and sub-octave signals, in addition to the original input audio. With two resonant lowpass filters and a modest bunch of modulators, it lets you conjure up some cool old-school guitar-synthesizer tones.

You simply drag modulation sources to destinations, and Megasynth adds a cable between them,

with the parameters knob color-coded to reflect the source modulator. Modulators include a pair of envelope generators, an envelope follower, two LFOs, a pattern generator, and a pair of macros (MOTU has videos online showing how to use the macros). These can modulate several parameters at once, and patterns and LFOs can sync to tempo at different rates allowing for interesting rhythmic possibilities.

MicroG and MicroB are essentially pared-down versions of Megasynth. They offer the same number of voices with fewer controls, hard-wired modulation and no patterns. If you prefer a simplified user interface and streamlined options, start with these.

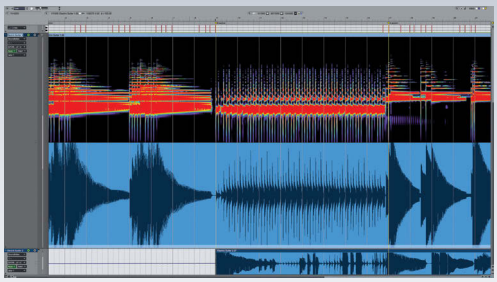

Fig. 1: Digital Performer 9's new spectrogram display sits atop its respective audio track, providing graphic information regarding the track's frequency content.

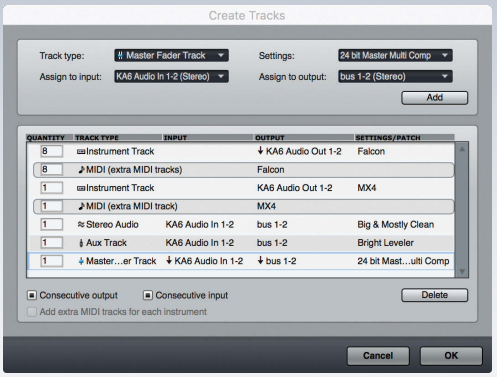

Fig. 2: The Create Tracks command lets you set up, assign, and route all of your tracks at once in a single window.

Fuzzy Logic

Take your instrument, divide its signal into four frequency bands and add differing amounts of distortion to each band—that's the basis of Multifuzz, a plug-in modeled after Craig Anderton's Quadra Fuzz. Use Attack to control the amount of fuzz, and by extension, the dynamic onset of the distorted tone. The next four knobs—Lo, Mid 1, Mid 2, and Hi—control the amount of distortion for the corresponding bands (as with the original, the frequency bands are not user-definable). Each band has a Boost switch that drives the signal further and emphasizes the band with a bit of resonance. You also get controls for tone and main output.

I ran sampled, clean electric guitars through Multifuzz, and I was able to sculpt a variety of convincing tones, especially with fully articulated libraries such as Impact Soundworks' Shreddage and Vir2 Electri6ity (see sound clip 2).

Fig. 3: Megasynth is an audio plug-in that processes audio through a polyphonic subtractive synth engine.

Fig. 4: MOTU's flagship hybrid synth MX4 combines analog modeling, wavetable scanning, and FM and AM synthesis with a deep set of modulation tools.

MX4 in the House

MOTU now includes its marvelous MX4 synthesizer in Digital Performer. An indication of the instrument's depth is the inclusion of a separate 70-page user guide, in addition to the DAW's excellent user and plug-in guides.

MX4 offers subtractive, wavetable, analog-modeling, FM and AM synthesis (see Figure 4). Three oscillators, six LFOs, and four envelope generators combine in a brilliant modulation matrix, though that's just the tip of the iceberg. The source and Shapers matrix lets you take any modulation source and modulate it with another modulator. The LFOs appear in a beautifully designed virtual lens that displays the selected waveform's shape and frequency as you adjust the parameters—frequency, symmetry, phase, delay, and ramp time. Buttons allow you to engage host sync as well as enable polyphonic modulation for the LFO; that means that subsequent voices modulate independently—a terrific humanizing resource.

The Mods page provides a slew of rhythmic modulation options and shapers, including a trigger sequencer, an arpeggiator, a pattern sequencer, and more. Moreover, the Invert and Transform lens lets you invert and scale modulations, while the Quantizer can be used to force stepped, intervallic modulation using selected pitches.

Each oscillator holds a generous pool of waveforms ranging from traditional analog shapes to white and pink noise, as well as a batch of wavetables in "digital" and anti-aliased versions. The digital waveforms provide a bit of extra grit and require fewer CPU cycles. You can also feed external signals into an oscillator or use it as a control source. Each oscillator has controls for Pitch, Wavetable Index, Symmetry, Level, and Pan: Oscillators one and two have controls for FM Amount (Oscillator 3 is always the modulator). Option-click on a fader and it splits, allowing you to define high and low limits for modulation by dragging the ends of the fader.

The results are both animated and expressive, and the presets provide a tantalizing demo of the instrument's capabilities. Its sonorities travel well beyond conventional analog synth tones, with lively, sweeping sounds and timbral shifts ranging from breathtaking to bizarre. Moreover, the sounds work their sonic magic without dominating the entire sound stage, as so many modern synth presets tend to do. Of course, you can move beyond the presets and create sounds the fit your tracks.

A Feature-Rich Upgrade

There is a lot more in this update that makes it compelling, such as the ability to export Quickscribe notation as Music XML files (for use in other notation programs), MIDI muting, and many other conveniences. Add all that to the program's overall depth and maturity, and I have no hesitation in giving Digital Performer 9 my highest recommendation. ♫

SAMPLE MAGIC Bloq

Keyboard K KEYBUY AWARD

BY FRANCIS PRÈVE

SAMPLE MAGIC IS ARGUABLY ONE OF THE BEST SOUNDWARE DEVELOPERS: Their dance-music libraries are absolutely on point. So when co-founder Sharooz Raoofi contacted me about the new Bloq collection of sampled analog instruments with a focus on vintage dance sounds, I hopped on it.

Bloq assembles a wide array of synths from Sharooz's personal collection, recorded through Neve, Focusrite, and Empirical Labs processing. The instruments range from the Roland Jupiter-8 to the Sequential Circuits Pro One, as well as vintage drum machines such as the E-Mu Drumulator and Korg KR-55B. The library includes versions in Native Instruments Kontakt 5, Ableton Live, and Logic EXS and Ultrabeat formats. While the flagship Kontakt 5 version includes a custom interface for tweaking the sounds, Bloq is not yet available for Kontakt 5 Player, so you'll need to be an existing Native Instruments user to take advantage of its features.

Synths

A comprehensive list of Bloq's synths can be found on the Sample Magic website, but it's worth mentioning that the collection includes classic gear such as Roland Jupiter-6 and 8, and modern products such as the DSI Prophet 08 and Elektron Analog Four. And there's not a throwaway patch in earshot; all of the sounds are useful and sit beautifully in a track thanks to the engineering. Stabs and leads predominate, with basses taking a backseat. Because the instruments cover a multi-octave range, you can edit almost any instrument into a capable bass.

The flagship Kontakt version makes full use of its processing and modulation amenities, with controls for filter, envelope, LFOs and scripted step sequencing options along with processing. The Ableton version is quite flexible, with lots of macros—top-level and nested— available for customizing your patches. It may not be as pretty or user-friendly as the Kontakt version, but it gets the job done.

Drums

On the percussion side, Bloq covers a lot of ground. The pantheon of Roland drum machines is present and accounted for, but the inclusion of more obscure gems like the Sequential Circuits Drumtraks and the MXR 185 will make this 2.6GB collection worthwhile to connoisseurs of exotica.

As with the synth instruments, the Kontakt 5 version offers numerous customization options, with filter and envelope tools, transposition, and the ability to easily create hybrid kits with drums from multiple sources. What's more, there's integrated processing for the drums, including compression, EQ, delay, reverb and even a tape-emulation option.

For Logic users, the drums are assembled into a collection of Ultrabeat kits, with all of its integrated features available for tweaks and touch-ups. As for Ableton, each machine is collected into its own massive drum rack, with oodles of smartly designed macros.

Snap Judgment

PROS Intelligently curated collection of analog dance synths and drums. Extensive editing features in Kontakt version. Macros in Ableton version. Beautifully recorded through a well-designed analog signal path.

CONS Kontakt 5 version requires a licensed copy of the full software player.

Bottom Line

A top-notch collection of sampled vintage gear for dance music producers.

Bloq: $65
Drums (alone) $29
Synths (alone) $44
samplemagic.com

Analog Sensation

Yes, there are numerous sampled analog collections currently available, so it goes without saying that this territory has been thoroughly explored. Nonetheless, Bloq stands out from the pack thanks to it attention to detail. And for $65, the package is an absolute steal. Moreover, the drums and synths are available as separate packs for $29 and $44, respectively. If you're looking for a collection of dance-centric analog sounds for both retro and modern remixes, Bloq is a fantastic value. ♫

Keyboard K KEYBUY AWARD

WIZDOM MUSIC

GeoShred

BY FRANCIS PRÈVE

EVERY TIME I THINK I'VE SEEN IT ALL ON IOS, AN APP CROSSES MY DESK THAT proves that the universe of touchscreen music is still in a state of rapid expansion. Case in point, GeoShred: a collaboration between rockstar technologist (and this month's cover artist) Jordan Rudess and physical-modeling developer moForte.

While we've seen a few guitar-centric iOS apps that allow access to the idioms of fretted instruments, GeoShred is a quantum leap forward in this territory, with gorgeous physically modeled instruments and a performance interface that incorporates best-of-breed elements from both the Roger Linn Design LinnStrument and Haken Continuum. The end result is a guitar emulation that is not only great fun to play, but quite convincing overall.

Firing up the app for the first time, I was blown away by the initial presets, which includes everything from guitars and dobros to exotica like kotos and sitars. There's also a helping of player-specific presets, including an ambient Robert Fripp lead that immediately inspired a new track. Other legendary players are captured in presets with names like "Beckish" and "Howe Classic."

GeoShred's interface is key to its ability to deliver convincing performances, with each preset offering a customized layout that maximizes playability. For example, digging into the performance settings, there are three modes available for quantizing the accuracy of the surface as you perform. Guitar mode delivers the illusion of sliding along frets, switching notes as you move across each virtual string. Slide mode removes those frets and allows you to glide freely between notes, with speed and snap parameters ensuring that even sloppy fingering results in solid intonation. Piano mode offers stricter tuning, with no guitar-like artifacts—useful for more synthetic textures. There are even playing options that allow fluid control of feedback, harmonics, and string scrapes. Combined with the ability to specify key and mode, these tools can make *anyone* sound accomplished.

While the hundred or so presets cover a lot of stylistic ground—some with impressively interactive arpeggiation amenities—GeoShred's synth engine is also accessible for sound design. Diving into its modeling tools, I discovered a treasure trove of parameters (around 50, if you're counting) that allow you to twist and shape the instruments into bizarre fretted mallet and xylophone textures that are fairly astonishing. What's more, if you select a hollow body for your instrument, you can expand it to room size for otherworldly reverb effects.

Beyond the physical models, there's a massive complement of guitar effects and amps, capable of everything from classic rock and metal textures to ethereal psychedelic cascades worthy of Pink Floyd.

After a few evenings playing with GeoShred, it became clear that compelling guitar leads and power chords are now part of my production arsenal, along with physically modeled mallet instruments that can be played with dramatic slides and fancy fretwork. What's more, GeoShred is an instrument that delivers real inspiration for keyboardists who are looking to expand their tonal palette beyond the black-and-whites. For many, that alone will make the twenty-dollar price tag a true bargain. ♫

Snap Judgment

PROS Impressively accurate guitar models. Brilliant adaptive touchscreen playing surface. Extensive modeling and effects editing with hundreds of parameters. Inter-App Audio- and Audiobus-compliant.

CONS Need to turn off certain iOS multitouch gestures to prevent accidental closing of app. Not well-suited to funk and disco guitar idioms.

Bottom Line

You're now a guitarist. Seriously.

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moforte.com

NATIVE INSTRUMENTS

Komplete Kontrol S88

BY FRANCIS PRÈVE

SINCE ITS INTRODUCTION IN 2014, NATIVE INSTRUMENTS' LINE OF KOMPLETE Kontrol controllers has won many awards and amassed a dedicated following. And with good reason, as the line's combination of gorgeous design, intelligent performance tools, and seamless integration with NI's vast array of softsynths and sample libraries make it a must-have for fans of their products.

Last fall, Native Instruments announced a massive software update to the Komplete Kontrol series, along with a brand new 88-key weighted-key edition, aptly named the S88, that adds even more value to the system and positions it for a much wider audience.

Key Designs

Like the original 25-, 49-, and 61-key versions, the S88 is absolutely stunning, with a brushed metal front panel, smooth rubberized knobs and a crystal-clear OLED that shows parameter functions. NI's innovative rainbow-hued Light Guide feature—essentially context-sensitive multicolored LEDs above every key—is even more impressive on the S88, which is based on a Fatar keybed that feels great.

Around the back, it remains quite minimal. There's a single USB 2.0 port, DIN MIDI In and Out ports, and jacks for expression and sustain pedals. Frankly, I was a wee bit disappointed that a sustain pedal wasn't included.

We covered Komplete Kontrol's original feature set in depth in the December 2014 issue of *Keyboard*, but it's worth a recap in this context: The essential concept behind the Kontrol series is tight integration with Native Instruments' extraordinarily comprehensive Komplete suite of softsynths and effects. Superficially, this means that Kontrol's knobs and display are instantly configured to reflect specific softsynth parameters, such as filters, envelopes, wavetables, and so forth.

While we've seen similar features on other new controllers, Native Instruments' approach offers a few unique twists, like the ability to incorporate custom scales, intelligent chording, and arpeggiators directly into a given Kontrol configuration.

I've seen a few reviewers lightly gloss over the Kontrol series' Light Guides, but as a professor and educator, I have to say that this feature is one of Kontrol's coolest and most meaningful innovations. In terms of software integration, it allows NI's percussion products, such as the included Drumlab, to color-code various sounds by category—kicks, snares, hats, etc. It also serves to visually display split keyboards, which is a nice bonus for gigging keyboardists. As a teaching tool, the guides allow the Scale feature to display which notes are true to any given key and mode, making it easy for students to grasp certain elements of music theory quickly. And yes, it is dazzling in a dark studio.

What's New?

While the biggest draw for the updated Komplete Kontrol package is the bundling of a huge assortment of NI's best instruments (see the sidebar on opposite page: Komplete Select Software Bundle),

Snap Judgment

PROS Top-notch Fatar weighted keyboard action. Seamless integration with NI softsynths. Support for third-party VSTs. Light Guide LEDs. Intelligent chord and arpeggiator functions. Komplete Select. Gorgeous design. Roadworthy construction.

CONS Damper pedal not included. Komplete Select software collection requires extensive downloading.

Bottom Line

An impressive alternative to hardware workstations.

$999
native-instruments.com

KOMPLETE SELECT SOFTWARE BUNDLE

All keyboards in Native Instruments' Komplete Kontrol series now come with an impressive collection of their softsynths, adding tremendous value to the package. One minor caveat: These instruments are available via download *only* and weigh in at close to 20 GB, so if you don't have a speedy Internet connection, prepare yourself for a few overnight downloading sessions. That said, it's a fantastic bundle that makes the Komplete Kontrol products instantly useful without the need for additional purchases. Here's what you get.

Massive: The sound of Massive's wavetables and filters literally defined the sound of dubstep and was a huge component of countless early EDM tracks, so its inclusion here will be a big enticement for electronic music producers with a taste for the heavier stuff.

Reaktor Prism: In reviewing Komplete Select, I used Prism for the first time and wow—I'm hooked! Combining elements of physical modeling with a gorgeous interface that clearly displays what's going on harmonically is a knockout combination when it comes to whipping up organic percussive textures of all kinds.

Monark: While there's certainly some competition for the title, most synthesists will agree that Monark is arguably the best Minimoog emulation on today's software market.

The Gentleman: A great sounding, distinctive upright piano and cuts through dense mixes nicely.

Drumlab: A go-to for pop and R&B producers, thanks to its ultra-punchy sound, integrated sequencer and ability to quickly layer a huge assortment of brilliantly recorded studio drums. It also includes a spot-on array of processing tools for putting these drums right in your face for "that sound."

Retro Machines Mk2: This is a great little collection of 16 sampled analog synths from yesteryear with integrated arpeggiator and chord functions for added vintage authenticity.

Vintage Organs: This collection of Hammond, Vox and Farfisa organs covers the basics well and includes integrated Leslie elements along with EQ and reverb, making it a useful bread-and-butter instrument for most applications.

West Africa: Covering percussion instruments such as djembe and dunun, along with African mallets and flutes, the West Africa library is fantastic for both tribal dance music *and* Peter Gabriel covers.

Scarbee Mark I: A lot of players swear by NI's sampled Rhodes and for good reason. It is beautifully recorded with great dynamic response and a ton of authentic warmth.

Solid Bus Comp: Most modern DAWs already include excellent emulations of the SSL master bus compressor. However, NI's take has its own subtle flavor and is an excellent alternative for producers looking to widen their processing palette.

there are several other new features that make the experience even more fluid, whether you're using it in the context of a DAW environment or taking it on the road with your laptop.

For starters, they've added compatibility with third-party VST plug-ins, allowing users to fully integrate the S88 and other models into a diverse collection of software, instead of the previous Native Instruments-only approach. The biggest news here is that Arturia is also onboard with the platform.

I tested Komplete Kontrol with Arturia's V Collection and everything worked without a hitch, with essential synth parameters intelligently assigned to the S88's eight parameter knobs. Other manufacturers, including Waldorf and u-he, have committed their support, as well.

Equally impressive is the ability to create your own parameter mappings within the Kontrol host plug-in. If you're an Ableton user, you'll immediately be reminded of their macro paradigm in Push, which is similar to how this feature functions: It allows you to hand-select exactly the parameters you need for a given performance situation.

Finally, Komplete Kontrol 1.5 introduces a brand-new plug-in format from Native Instruments called NKS, which lets compatible software access the deeper functionality within Kontrol, providing total integration with the keyboard's performance features: arpeggiators, chord sets, scale mapping, and the aforementioned Light Guides.

I'm often a little skeptical of new formats, but Avid's transition to AAX went relatively smoothly and Propellerhead's Rack Extensions has done nicely, so here's hoping the porting process for VST developers is straightforward.

Rocket 88

All of these new features really take Komplete Kontrol to an entirely new level of flexibility, both for gigging and in the studio. The whole interface intelligently adapts to your musical and sound design objectives, especially now that you can include your other VSTs in the program. What's more, the Komplete Kontrol software also works in standalone mode, allowing you to create presets on the go with just your laptop – an important consideration since the S88 isn't as portable as the smaller controllers. With it, I was able to create a slew of new patches that make great use of the arpeggiator and scale functions, applying those to both NI's synths and Arturia's V Collection, then returning to my studio to use them in conjunction with the S88.

Native Instruments' dedication to advancing and opening up the Kontrol platform really inspires confidence that these products are going to change the way electronic artists interact with their software, to the point where there's a very real possibility that traditional hardware workstations may one day become irrelevant. While this has been an industry prediction for decades, Komplete Kontrol is a clear indicator that it's finally visible on the horizon. ♫

AKAI
Timbre Wolf

BY FRANCIS PRÈVE

AKAI'S BEEN MAKING BOLD MOVES IN THE ANALOG MARKET LATELY. LAST year saw the introduction of the Rhythm Wolf, a peculiar drum machine that polarized the synth community in several ways. On the one hand, naysayers felt the drums weren't punchy enough and that the bass synth was out of tune (it was, to be honest). On the other hand, there were users like myself, who found the unit's exotic sound, solid construction, and affordability a distinction in a growing pack of competitors.

This year, Akai is back with two new contenders in the analog arena: The Timbre Wolf 4-voice analog synth and the Tom Cat, an alternate take on the drum machine that covers different ground from the Rhythm Wolf. Although the Tom Cat wasn't shipping at the time of this writing, I was among the first to check out the Timbre Wolf.

Design and Construction

For starters, the Timber Wolf's construction feels extremely robust with metal panels, great feeling knobs and retro wooden end-caps. The rear panel sports jacks for main out, individual voice outputs, headphones, MIDI In/Out/Thru, USB MIDI and gate I/O for clocking the sequencer (see Figure 1).

Feature-wise, the synth has a unique architecture, as each voice is completely independent, in a similar manner to the Korg Mono/Poly, which allowed you to independently control its oscillators for four-voice operation. Akai's approach is slightly different, as every voice is its own mini-synth and the unit includes an integrated four-track sequencer that can control any or all of the individual voices. Taken as a whole, this makes the unit quite useful for a variety of applications, both as a groovebox and as an unusual-sounding instrument.

Synthesis Engine

Each of the Timbre Wolf's four voices consists of the same mini-synth found in the Rhythm Wolf,

Snap Judgment

PROS Four-voice polyphonic. Four-track step-sequencer. Voice rotation allows for unusual sequencing and arpeggio tricks with different sounds on each voice. Roadworthy construction.

CONS Does not receive polyphonic MIDI information on a single channel. Filter resonance diminishes amplitude below the cutoff. Tuning knob range is strictly for detuning, not intervals.

Keyboard

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Fig. 1. The Timbre Wolf offers full connectivity, including MIDI, USB and 3.5mm gate jacks for working with other analog synth products.

with one notable exception. These voices are actually in tune, and Akai has included a voice-calibration function that retunes the voices should their drift become noticeable over time. In my tests, I was both impressed and relieved that Akai has addressed this issue and can confirm that any tuning deviation is well within tolerable range for an analog synth. And it's worth mentioning here that many of your favorite vintage monosynths include some form of tuning instability. Don't believe me? Grab the tuner in Logic or Ableton and play a C in every octave and ponder the results. Bottom line—Akai's new oscillators are now on par with the rest of the analog market.

As for the architecture of each voice, the Timbre Wolf's parameter array is strongly reminiscent of the Roland TB-303. That is, there's a single saw/square oscillator that feeds a lowpass resonant filter, followed by a simple decay ramp envelope that can be applied to both the amp and cutoff. Ultimately, it's like having a collection of four 303's that can serve as four monosynths, a polysynth with rotating voice allocation for Mono/Poly and Oberheim tricks, or stacked and detuned for a massive lead sound.

That said, there are still a couple of caveats to Akai's implementation. For example, each oscillator's tuning knob only covers the detuning range—basically a semitone in either direction. A wider range would have allowed for interval tunings in unison mode for those oh-so-trendy stacked parallel seventh chords. What's more, it would have been great if each oscillator included an octave switch, which would have added some range to the Timbre Wolf's massive lead sounds.

As for the filter, increasing the resonance beyond 60 to 70 percent really thins out the sound in a way that's cool if you're looking for pseudo-highpass effects, but misses the target for sounding like a true 303. Adding a touch of gain boost in the filter circuit could have addressed this, but we'll just chalk it up to the synth's identity in this case.

None of these issues feels like a deal-breaker in the larger context of the Timbre Wolf. After all, many early analog synths had flat-out *weird* designs (Korg Sigma and Delta, anyone?), but that didn't keep their sound from being extremely useful, and more importantly, *identifiable*. No one will ever mistake a Moog for an ARP, and that's the key here. The quirks of the Timbre Wolf, like the quirks of the Rhythm Wolf, are part of its sound, and with all four voices layered and detuned, that sound can be incredibly fat at times. And if you want to go really big, you can twist the Howl knob, which not only adds a megaton of distortion but amplifies the overall volume to a dangerous degree. Don't say I didn't warn you.

As for polyphonic operation, it's just a matter of switching the mode to poly and playing chords. The fact that each voice can have its own sound gives chord comping a really unique texture. Or, you can quickly set up each voice identically for a more traditional approach. Unfortunately, there's no ability to save these patches as presets, which is a bit of a shame in this context.

Sequencing

The Timbre Wolf's four-track sequencer is surprisingly intuitive and capable. In fact, I was up and running with it in just a few minutes of unboxing the unit. The basics are obvious: Hit Record and Play and start riffing. As you hit keys, the appropriate LEDs light up on the 808-style sixteen-step strip above the keyboard.

At first, I thought the sequencer was going to be a strictly monophonic affair, but glancing up at the synth section, I realized that each voice could have its own discrete sequence. Tapping on a Select button switches the sequence to that voice, so you can repeat the process up to four times, creating fairly intricate patterns rather quickly. Alternately, you can switch the Timbre Wolf to unison mode and have all four voices stacked on the sequence for the first voice.

There's not much else in the way of editing, except for the ability to add ties, change the pattern length and adjust swing. Each of the 16 sequences includes editable A and B versions, which can be chained together for a 32-step sequence. There's also a Fill button that interacts with the A/B selector for a bit of added flair. All in all, this approach puts the Timbre Wolf squarely in groovebox territory. While some may complain about the 16-sequence limitation, I can quickly think of at least four other modern products that have equally small banks of sequences, so it is what it is.

MIDI

The Timbre Wolf's MIDI implementation will happily transmit its sequences as well, which can be useful if you have a larger rig with a few other elements. It's also multi-timbral, so you can send it up to four discrete sequences for each of its voices. Naturally, the sequencer can also serve as master or slave sync via MIDI, USB, or the pair of gate jacks on the back panel.

On the downside, there's no way to control the Timbre Wolf polyphonically over a single channel. Rather, its MIDI configuration allows you to access the individual voices sequentially via cascading channel assignments. For example, if you set the master channel to 12, that will play voice one, with the next three voices corresponding to channels 13-15. I was a wee bit disappointed about this discovery, as I really wanted to control the Timbre Wolf from Ableton Live as a secondary polysynth in my rig. Le sigh.

Conclusions

With its clever design and distinctive sound, the Timbre Wolf is a credible all-analog synth with a lot of features that you won't find anywhere else. With all four voices stacked, its capable of some truly massive leads, and in poly mode, it's got a one-of-a-kind character that isn't easily duplicated.

Its four-track sequencer is great for intricate poly-timbral grooves and the whole package is built like a tank. While I can't recommend it as a first synth for those looking to add analog to their rig, it's a very cool box for artists with a larger collection of gear who are after something on the exotic side. If that describes you, then the Timbre Wolf is definitely worth further inspection. ♫

Bottom Line

Unusual analog polysynth with integrated sequencing and a unique sound.

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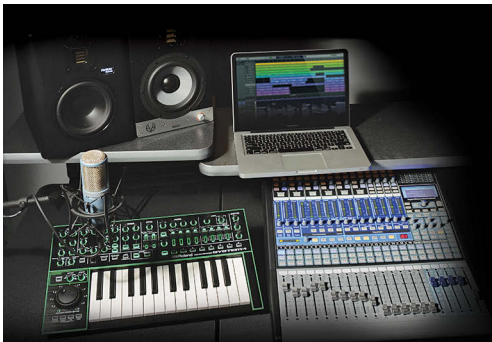

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DEREK CLARK

5 THINGS I'VE LEARNED ABOUT Playing Solo Piano

BY ANDREW MCCORMACK

Jazz pianist and composer **Andrew McCormack** has anchored the bands of acclaimed artists like Kyle Eastwood, Eric Alexander, and Jean Toussaint. His latest album as a leader, *First Light*, is out now. Find out more at mccormackmusic.com.

PERFORMING SOLO PIANO CONCERTS IS POSSIBLY ONE OF THE GREATEST challenges a pianist can face. During a solo concert, an artist's technical and artistic abilities are pushed to the limit, with the added task of holding an audience's attention for a long period of time. One of the things I enjoy most about performing solo is the special dynamic between my audience and me. When it works, it's addictive. Some of my favorite solo piano recordings are by Art Tatum, Thelonious Monk, Bill Evans, Brad Mehldau, and Kirk Lightsey. But I always find myself going back to Keith Jarrett's spontaneous improvised concerts, as they are extraordinary achievements. *The Köln Concert*, in particular, would certainly be one of my desert island discs! Here are five things I've learned about performing solo.

1. P is for Preparation

Being a performing musician is a bit like being an athlete. All your training and expertise comes in to play, and you need to be warmed up and ready so that when you're onstage, you can maintain stamina. It's all about practicing regularly and making sure you cover technical issues, as well as knowing what it is you want to say musically. Include a solo piece in your daily practice and rehearse the act of performing that piece. Try recording yourself and then listen back, not only imagining that you're in the audience, but also focusing your ear on *specific* parts of your performance. For example, how steady is the time? Are you staying in the same range of the keyboard for too long? Examine these and other issues and address them in your practice.

2. Make a Set List

Think about the *story line* of your set. Presenting a variety of songs isn't enough on its own; there's an emotional journey that you can convey to your audience. You have to earn the slow and quiet music, and it's important to work out how to get there. One of the most interesting dynamics in any performance is the two-way relationship between the artists onstage and the audience. Making your set flow is a major tool in getting listeners on your side.

3. Maintain Key Contact

If you want to control your sound, you must learn to maintain proper contact with the piano keys. Even if you're playing really fast melodic passages, your sound will be much stronger and clearer if you're *digging into* the notes rather than skimming over them. Keith Jarrett is one of the absolute masters of this. Work on exercises like those by Hanon with the goal of maintaining proper finger/key contact.

4. Use a Variety of Textures

Always remember that the ear gets tired of hearing the same thing for too long. In jazz, we tend to use a "theme and variations" model to elaborate our ideas on a given song. Remember that the variations should be interesting as well as logical to the theme. A simple example is to finish a melodic sentence with a single voice in the right hand, followed by a block chord soli-style passage using both hands. Try alternating these (and other) textures as an exercise to bring variety to your arrangements.

5. Learn the Language

There is a plethora of solo piano music recorded and available today. The most efficient way to get your solo piano chops together is to listen to and transcribe recordings by master pianists. Even if it's just a short passage, you can learn a great deal by learning to play it, analyzing how it works, and then assimilating it into your own playing. Look at specific issues like how an artist uses his or her left hand, or where they change textures.

Watch Andrew McCormack play "First Light"

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